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Sword of Sodan

The best sound and vision on the Amiga? *page16*

MARY WHITEHOU

BAN THOSE VIOLENT GAMES

Guess who wants to kick out the so-called computer nasties? Mary W. has her say

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AMSTRAD:

Lotus bundling deal looms but staff get the chop for Christmas – *page 2 & 5*

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NOW IT'S AMSTRAD THE LOTUS EATER

Amstrad is planning to bundle Lotus' integrated package *Symphony* with its entire range of PC2000s.

Symphony itself has been all but superseded by the £500 follow up *Symphony II* but the package is said to be ideal for first time PC owners. However, experienced PC users may find the 1986-launched product to be outdated.

Amstrad, in traditional fashion, is not prepared to comment on the matter but it is likely that the bundle will be officially announced within the next few weeks. *Symphony* itself includes such features as spreadsheet, word processing, business graphics, database and a communications package.

This represents a continuation of Amstrad's attempts to lure the upmarket PC user. The launch of its more powerful machines last autumn has been coupled with the ever present desire to offer a package as attractive and complete as possible. Amstrad has customarily found success in bundling suitable software with its machines.

When it happens it will be the first time that the two giants have signed a deal. In the past Lotus has operated a strictly hands off approach to Amstrad's bundling activities.

Lotus Symphony
Symphony

Symphony: Bundled with the 2000s

Do it yourself databases

Those people who moan about not being able to find a cheap business package, tailor made for their own needs should sit down and write one for themselves.

That's the theory of Etcetera Software which is due to launch an Applications Development System which will form the basis for "almost any business application". According to boss Tony Thorne even the least computer literate PC owner will be able to handle the simpler programs such as table databases. The programs will allow users to form a package from scratch or modify some existing programs.

"You need to know what's best for your business rather than how to program. But if you can program then you could be writing very sophisticated applications," he claimed. "Someone good enough could set up their own software house using the Code Generator."

Etcetera is putting the basic database generator out as shareware and is then selling more programs with manuals at £29. It also hopes that more ambitious users will invest in the £249 full range which are supplied with modified disk source code already generated. Telephone 0481 44955.

Character building

An Archimedes games compilation is soon to be launched which includes the option of creating your own characters.

Repton 3 *from Superior sports a screen and character designer which offers twice the resolution of the BBC version. Superior is staging a competition for the best new screen and set of characters submitted with a cash prize of £300 on offer.*

The £20 compilation includes Repton 3, Around the World in 40 Screens, The Life of Repton *and* Repton Thru' Time.

Archimedes
REPTON 3
The Life of Repton
Around the World in 40 Screens
SUPERIOR SOFTWARE
ACORNSOFT

Repton: £300 lure

Amstrad mag trio scooped

The trio of official Amstradcomputer magazines have been sold off to publisher Focus for an undisclosed sum.

Amstrad PCW Magazine, Amstrad Computer User and Amstrad Professional Computing were published by Database subsidiary Avralite. They have been sold – apparently for a modest sum – in an effort to concentrate efforts on the firm's 16-bit magazines. What Focus intends to do with the publications is still unclear.

One area of ambiguity is Focus' established PCW mag, *Amstrad PCW*. It would appear perverse for one company to be publishing two PCW magazines but Focus has still not decided whether or not to merge the two mags.

"We're quite sure that there is a future in all aspects of the Amstrad market," commented Focus chief executive Richard Hease. He went on to say that all employees on the magazines would be offered a job at Focus. However, it is thought unlikely that there will be many takers on this offer given that Database is in Stockport and Focus in London.

Either way Focus hopes to run the magazines in much the same way as previously. One part of the deal between means that Database gains the rights to *S T Update* which will now become integrated with *ST User*.

AD PCW MAGAZINE
Doing the continental

Amstrad PCW: Off to Focus

Dangerous' hacker banned from telephones

A hacker has been declared so dangerous to the community that he has been ordered to be kept in custody without access to either a keyboard or even a telephone.

Kevin Mitnick has been charged by Los Angeles Police for computer fraud and faces up to 20 years in prison. The 25 year old's charges include altering a judge's credit record, tampering with his own police files and causing £2 million worth of damage to a computer owned by Digital Equipment.

The *Neuromancer* style hacker was gaining access to unauthorised long distance codes in Los Angeles and here in England. His crimes date back to when he was only 17 when he connected his computer up to a public telephone and altered people's telephone bills and stole secret data valued at £100,000.

"When armed with a computer he poses a danger to the community," said a magistrate.

The practice of completely cutting off a prisoner's telephone calls is highly unusual and this is believed to be the first case in US law which makes it a crime to enter an interstate computer network for criminal purposes.

LAUNCH EDITOR **Chris Anderson** • CONTRIBUTING EDITOR **Peter Worlock** • NEWS EDITOR **Colin Campbell** • REVIEWS EDITOR **Andy Storer** • STAFF WRITER **Rik Haynes** • PRODUCTION EDITOR **Rod Lawton** • ART EDITOR **Julia O'Shea** • ART ASSISTANT **Harriet Athay** • ADVERTISEMENT MANAGER **Mark Salmon** • AD EXECUTIVES **Jennie Evans, Sophie Lankenau** • AD TYPESETTING **Terry Turner** • PUBLISHER **Greg Ingham**

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Fox fights back

Business software giants Fox and Ashton-Tate have clashed once again over their respective PC database programs.

Fox last week issued a response to Ashton-Tate's law suit of two months ago which claimed that *FoxBase* is a rip off of *dBase IV*. Fox is not only strenuously denying all of A-T's charges but it is accusing the firm of misappropriation of Fox proprietary information as well as unfair competition and illegal monopolisation of the market.

Such is the anger in Fox corners that the firm wants all copies of *dBase IV* to be impounded and destroyed. It also wants substantial damages against A-T.

Fox alleges that A-T stole some of its ideas while the two firms were on more friendly terms. Fox had originally informed A-T that it would be releasing a product similar to *dBase* and after negotiations, *A-T* apparently approved.

The claims go on to suggest that Ashton-Tate encouraged other firms to use its products as a basic language base so that it could dominate the market. It is estimated that A-T has 60 per cent of the database market.

Such is the intricate nature of these 'look and feel' cases that this action is likely to run for many months, if not years.

SANYO STORMS IN

Giant electricals firm Sanyo is planning a string of launches for the first few months of this year, including an upgrade of its low cost XT.

Other products on the horizon include a 386 laptop, a laser printer/DTP system, and an Intelligent Disk Server for 286 networks.

The new 8088 XT is the Mark II version of its existing MBC16. The 3.5 inch disk based machine will run at 10 MHz and may even be cheaper than the 16's price of £580. Sanyo though has once again stressed that it does not intend attacking the low cost PC market largely dominated in the UK by Amstrad.

"Our PCs are made with metal cases and are really for those people who want to pay for reliability and longevity from their machines. There is a certain kind of computer user who would rather pay extra for those qualities," said Sanyo's John Culbert.

MBC16 Mark II should be first shown at the *Which Computer?* Show in February with general availability soon afterwards. Higher end machines such as a 20 and 40 megabyte version should also be available then.

The STX608 eight page per minute laser printer will be bundled with DTP package *Timeworks* at a price of something approaching £1,600. Sanyo is calling the bundle the ideal solution for those people who not only want to start on DTP but also want a system approaching the quality of *Ventura*.

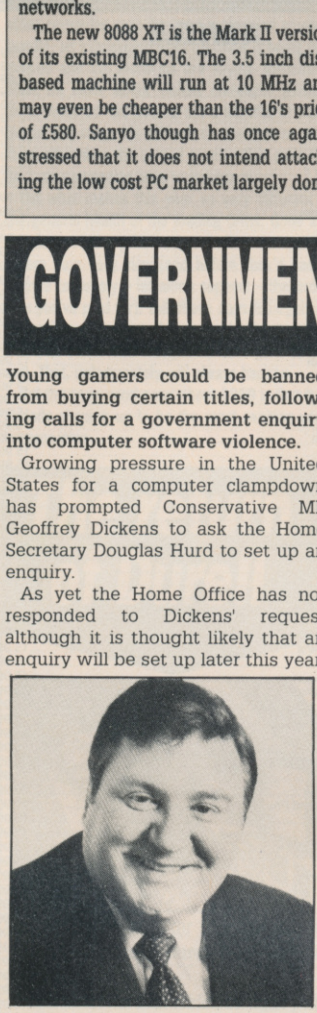
It is being claimed that the Intelligent Disk File Manager will speed up some networked applications by up to ten times. "The biggest problem with networks is having to wait for disks to load," said Culbert. "You just have to stick this box into one of the file server's expansion ports and in some cases it speeds things up by ten times." The only bad news about this is that it is likely to cost £5,000.

GOVERNMENT EYES GAMES CENSORSHIP

Young gamers could be banned from buying certain titles, following calls for a government enquiry into computer software violence.

Growing pressure in the United States for a computer clampdown has prompted Conservative MP Geoffrey Dickens to ask the Home Secretary Douglas Hurd to set up an enquiry.

As yet the Home Office has not responded to Dickens' request although it is thought likely that an enquiry will be set up later this year.



• Dickens: Restricting games

Dickens hopes that a certifying board can be put into place similar to those in the film and video industries.

Games which are deemed to be exceptionally violent will be given an 18 certificate with slightly milder titles given 15. In the past, some computer games have been graded but only after being submitted by the software house voluntarily. The most publicised cases were CRL's *Dracula* (15) and *Jack the Ripper* (18).

"We've got an Act in place to monitor which videos get into the home and I think it wouldn't be such a bad thing to do the same with computer games," said Dickens. "We need a forum in which to view these games before they reach the shelves."

At the time of going to press Dickens was waiting to hear from Hurd on the matter. The board of enquiry, if it is set up, will consist of "experts" such as child psychiatrists and entertainment pundits. If their findings are not favourable then Parliament may well pass an act restricting age groups or even banning some games.

"Children today might see a thousand homicides a week on television even before playing these games," continued Dickens. "I think that cheapens life and that is dangerous."

Veteran morals crusader Mary Whitehouse is also looking to restrict the availability of violent computer games. She told *Express*: "To produce something which is sadistically violent is irresponsible. It's crazy."

Dickens felt sure that the enquiry's research would take a very long time. "These things aren't done overnight," he commented. "These are awful things but Acts aren't passed by me sounding off."

Nintendo is the US has recently come under attack for what some researchers described as a lack of responsibility in selling violent games to impressionable youngsters.

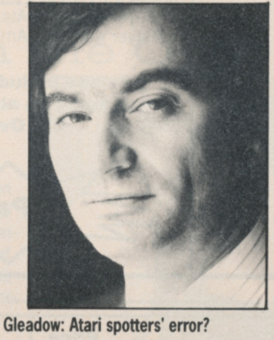
Stacey II on the drawing board?

Atari is contemplating launching a second ST laptop as a follow on to Stacey - but any plans are currently about as embryonic as they possibly could be.

A handful of industry watchers claim to have seen the design sheet at Comdex late last year with some making direct comparisons with Toshiba's ultra light 1000 portable. Atari UK's boss Bob Gleadow though is bemused by suggestions of a second machine, and is denying any knowledge of it. He suggested that the Atari spotters might have mistaken the plans for Atari's forthcoming Pocket PC.

Yet one leading computer pundit though told *Express* that this was extremely unlikely given the calibre of those people who have seen the machine's blueprint.

One possibility is that Atari US was simply "flying a kite" in order to gauge instant reaction. This may well have come direct from Atari's technical department "sounding off". Details are scant although the plans showed the machine as having no hard disk and a blue back-lit LCD screen.



Gleadow: Atari spotters' error?

Atari has long implemented the tactic of sounding out the public by leaking plans of forthcoming machines and then seeing how well the idea is received. That though is usually done with machines which are at least in the middle of development.

Either way, one suggestion is that Stacey II will only weigh about eight pounds. Stacey itself weighs in at about 14 pounds and has been in development for 18 months now. Since then, the portable market has progressed rapidly.

America's No. 1

Americans spent a total of $1.8 billion on the Nintendo games machine this year making it the biggest selling toy of 1988. Half of the purchases were made during the Christmas selling period.

GAMES TOP TWENTY FULL PRICE

1	1	Operation Wolf	*Spec, C64, CPC, ST, Amiga*	OCEAN
2	2	Robocop	*Spectrum, C64, CPC*	OCEAN
3	3	Afterburner	*Spectrum, C64, CPC, ST*	ACTIVISION
4	4	Double Dragon	*Spectrum, C64, ST, Amiga*	MELBOURNE HOUSE
5	5	Thunder Blade	*Spectrum, C64, CPC, ST, Amiga*	US GOLD
6	6	Giants	*Spec, C64, CPC*	US GOLD
7	11	Last Ninja 2	*Spectrum, C64, CPC*	SYSTEM 3
8	8	R-Type	*Spectrum, C64, CPC, ST*	ELECTRIC DREAMS
9	9	Football Manager 2	*Spectrum, C64, CPC, ST, Amiga, PC,*	ADDICTIVE
10	15	Game Set and Match 2	*Spectrum, C64, CPC*	OCEAN
11	12	Pacmania	*Spec, C64, CPC, ST, Amiga, MSX*	GRAND SLAM
12	14	Return Of The Jedi	*Spectrum, C64, CPC, ST, Amiga*	DOMARK
13	17	Taito Coin-ops	*Spectrum, C64, CPC*	OCEAN
14	7	Batman	*Spectrum, C64, CPC, ST, Amiga*	OCEAN
15	23	Four Soccer Siumlators	*Spectrum, C64, CPC*	CODE MASTERS
16	10	Falcon	*C64, ST*	MIRRORSOFT
17	RE	Rambo 3	*Spec, C64, CPC, ST*	OCEAN
18	13	Elite	*Spec, C64, CPC, ST, Amiga, PC, BBC, Elec, MSX*	FIREBIRD
19	18	Supreme Challenge	*Spectrum, C64, CPC*	BEAU JOLLY
20	16	Microprose Soccer	*C64*	MICROPROSE

GAMES TOP TEN BUDGET

1	1	Joe Blade 2	*Spectrum, C64, CPC, ST, BBC, C16, Electron*	PLAYERS
2	3	Bomb Jack	*Spectrum, C64, CPC, ST, Amiga, C16*	ENCORE
3	RE	European Five-a-Side	*Spectrum, C64, CPC*	FIREBIRD
4	2	Commando	*Spectrum, C64, CPC, BBC, C16, Electron*	ENCORE
5	5	Footballer Of The Year	*Spec, C64, CPC, Elec, BBC, Atari 8-bit, C16, MSX*	KIXX
6	13	Advanced Pinball Simulator	*Spectrum, CPC*	CODE MASTERS
7	14	Leaderboard	*Spectrum, C64, CPC, ST, Amiga, PC, Atari 8-bit*	KIXX
8	15	Air Wolf	*Spectrum, C64, CPC, BBC, C16, Atari 8-bit*	ENCORE
9	9	Ghostbusters	*Spectrum, C64, CPC, Atari 8-bit, MSX*	MASTERTRONIC
10	23	ACE 2	*Spectrum, C64, CPC, C16*	CASCADE

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Thunderblade

Operation Wolf

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NEW COMPUTER EXPRESS

LEAN AND HUNGRY AMSTRAD CUTS STAFF

OUR OPINION

...And a happy New Year

Superficially, 1989 has begun much like any other computer year. Amstrad is planning another bundle, an evanescent Atari machine is being discussed and the moralists are saying Something Must Be Done about violent computer games. Sure, Amstrad has booted out a handful of staff, but at this stage it's difficult to see that as anything other than the sort of pruning that even the best run companies have to indulge in.

But what makes this year so very different is the general health of the leading firms. Gone are the days of the grim reaper culling companies before your very view (and before they'd had a chance to supply – let alone support – the products you've paid for). Talk these days is largely of increasing sales – not of re-arranging bank debts.

OK, so some mail order firms have gone to the wall. That, unfortunately, will always happen.

But the truly good news about 1989 is that it is already shaping up to be the most exciting year in computing.

Amstrad has ordered a range of job cuts In an attempt to improve efficiency at its Brentwood headquarters.

The action – in a firm renowned for growth not job losses – has surprised observers. In all eight staff have been made redundant including Mike Mordecai a senior figure in the company's software department.

One inside source has told *Express* that the cuts were a purge "of anyone seen to be a tea stirrer" and that the software department especially was undergoing a thorough shake up.

Although Amstrad is known for its ruthless approach to business it is playing down these events. "I wouldn't read too much into it," said a spokesman.

"Amstrad is a fast growing company. We had to stop and say 'hold on'. It was a case of employing too many people.

"Amstrad has always taken the view that the firm needs to be lean to be efficient. Therefore it cannot employ people who aren't necessary. It will be no consolation to those people who lost their jobs but the numbers were small."

• Mordecai: Amstrad veteran out

Could do better?

Computerised teachers will be gleeful to hear that a student report writing package is being launched by Ashford Press.

Ashford claims that with the £46 pack teachers can now compile more detailed reports quickly enabling parents to know exactly what their offspring are up to. Teachers and other educational types should call 0329 834265.

The return of Durell

Eighteen months after dipping out of the games industry Durell Software has re-emerged.

This time, the firm which brought you *Saboteur* and *Combat Lynx* is keeping a low profile and sticking to simply developing games for other companies. For the moment, Durell is working exclusively for Again Again on *Saboteur 3* and *Operation Hormuz*.

Durell's boss Robert White was known to be disillusioned with the rough and tumble of the games industry when he dropped out in September '87. Even now he is preferring to take the role of software hermit and is declining to talk to the press.

Again Again's boss Roger Hulley explained to *Express*: "Robert isn't one for the bright lights. He's just working with us at the moment because it means no fuss. It's all clear cut and simple."

During the past year or so Durell's small team of programmers has been beavering away on business projects. It is understood though that White was always keen to make a comeback into games software, albeit at the program-

Amiga portable planned by ambitious US duo

The first portable Amiga is being developed in the US by "a couple of hackers who thought it would be a good idea".

It's hoped the machine will be launched in the US at the New York AmiExpo in March with UK availability planned for early summer. The expected US price is $2,200.

But the company formed to develop the portable is having difficulty raising cash. "We're just a couple of Joe Small computer users who figured that someone would be developing an Amiga portable, so why not us?" said partner Mike Morrison.

The machine – called the Journey Man – is being put together by Rhode Island based Micro Momentum. It includes two 880K 3.5 inch disk drives and a seven inch amber monitor. Plans are afoot to develop a colour monitor.

For the moment the machine will run off mains supply only, and weighs in at 35 pounds. Micro Momentum also plans a battery operated version later in the year. Journey Man was planned to weigh 25 pounds but the expense of a light carrying case prohibited that.

Commodore apparently approves of the development, having no plans of its own to manufacture such a machine. The firm feels the potential market is too small.

"We've been using Commodore's mother boards and they've helped us out here and there," explained Morrison. "But they've pretty much decided to stay out of our way.

"We've had problems getting money together. It's really been done on a shoestring with the investment so far running to about $10,000. But we're selling Amiga T-Shirts and a calendar to get some funds in."

(See also Amiga Blit).

It's Jocky on the Oche for Zeppelin

Cuddly darts hero and drinking supremo Jocky Wilson has been scooped up by Tyneside based software house Zeppelin Games for a budget darts game.

Zeppelin apparently picked up the Wilson licence at bargain price. At the time of the deal the ample arrow thrower had just managed to pull himself through the first round of the British Darts Championship. "He was looking a bit dodgy at the time but we wanted to sign him up because he represents the character of darts," said Zeppelin's Brian Jobling. Wilson went on to win the championship.

Jocky Wilson's Darts Challenge *is out now on the major 8-bit formats for £2.99. 16-bit versions are not expected.*

• Aiming high: Wilson with the Zeppelin team

Oric owners: Your machine needs you!

Isolated Oric users grieving the ever dwindling supply of software can take heart that enthusiasts are still doing their bit to support the old machine.

Cheshire based Home and General Computing specialises in supplying Oric users with whatever software there is. The firm has just come up with a new adventure called *The Last Warrior* priced at £4.99.

Boss Allan Whitaker is still looking out for new programs. "Any computer needs new blood to maintain interest and I'm always on the lookout for anything new from Oric owners," said Whitaker. "I know there are a lot of gifted Oric users and their work would be greatly appreciated by other owners."

More info on 061 303 7369.

Whitehouse: TV, videos – and now computer games?

Computer games really screw you up?

That is what a group of campaigners are claiming in the US and here, as the prospect of a Government committee looking into violent games looms. COLIN CAMPBELL talks to those with the opinions, the research and with the most at stake...

Violence breeds violence I

Of course this is something which causes a great deal of concern, whether it's TV or video or video games. At our very first meeting 25 years ago we said that if you continue to portray violence on a wide scale then you produce a more violent society.

To produce something which is sadistically violent is irresponsible. It's crazy.

Does it bother you that computer games involve playing an active role rather than just a passive one?

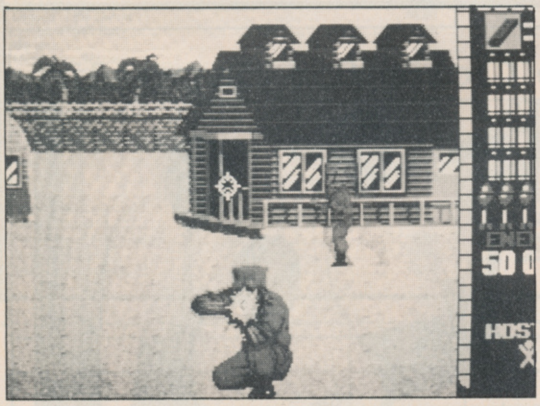
On the face of it that does seem to be worse. But that shouldn't absolve those which you just watch. Either way it becomes a way of life. It becomes like the Romans in the Amphitheatre.

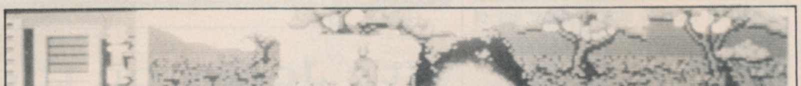
Do you agree with the notion of warning stickers?

I think stickers could attract as much as repel. The heart of the matter is controlling it. The Government has committed itself with the Obscene Publications Act due to be heard shortly. We have tried to get this Act to include broadcasting for a long time and we expect it to include video games as well.

First though we need to define the obscenity so that it encompasses violent as well as sexual obscenities. I hope Parliament deals with this in the next session and that the matter of violent computer games is brought forward.

Mary Whitehouse,
Head of the National Viewers and Listeners Association





Operation Wolf and Veteran: Violence on the screen leads to violence in the head, which leads to violence in society...Well, that's the theory at any rate

THE RESEARCH

Conducted by the International Coalition Against Violent Entertainment, the Champaign, Illinois based US organisation. Its findings are based on analysing 95 Nintendo games.

- 58 per cent of the games were based on warfare
- 83 per cent featured violent themes
- The most common war theme was modern war (17 per cent), followed by gang war, futuristic war and fantasy war
- Games picked out as most dangerous were *Top Gun, Mike Tyson's Punch Out, Dungeons and Dragons, Starforce, Sgt Slaughter's Renegades*, and beat-em-up *Urban Champion*
- 80 per cent of eight to ten year olds showed an increase in school bullying on the playground after playing violent video games. (ICAVE accepts that fluctuations in playground behaviour could be attributed to a myriad of causes but maintains that the long term effect is still present.)

THE REQUESTS

Following its research, ICAVE has made a series of recommendations. These are currently being disseminated around news media in the US, in the hope of generating a moral bandwagon.

Principally, the recommendations are:

- A banning of toy guns with video games machines
- The development of games which involve "non-violent means of resolving conflict"
- Legislation that bans the most violent games
- Legislation requiring labels on all games involving violent conflict
- ICAVE stresses that video games are not a form of speech and therefore not part of the American First Amendment which sets out to protect freedom of expression

continued on page 11

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We are at the moment writing *Amiga to Z88 file transfer software* and *Amiga to QL software.* If you are interested in either of these then please contact us for more details.
We stock too many products to mention in any advert, *(we have a regular four page advert in QL World each month)*, so please send us a SAE or give us a ring for our free product guide and price list.

A goods ordering section is now available on the Bulletin Board, so goods can be ordered by Modem.

NORTHERN SINCLAIR SHOW

Due to a lack of previous shows in the North for Sinclair machines Sector Software are to be organising a Northern Sinclair show around Preston in Lancashire (jnct 28 or 29 M6) in about March, anyone who would like to be mailed with details or any Spectrum, QL, Z88 companies or peripheral suppliers please contact us for details.

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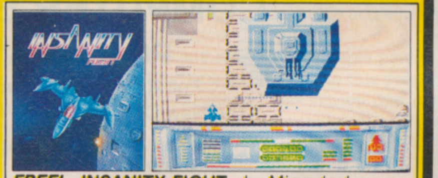
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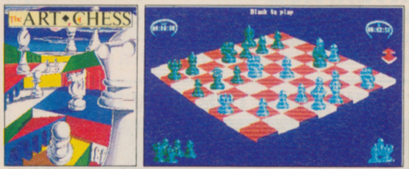
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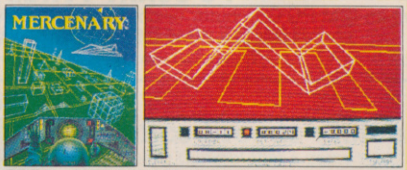
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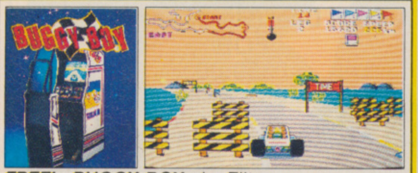
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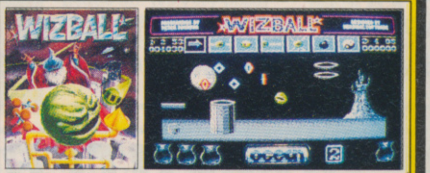
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continued from page 6

Violent reactions I

Because video games will be the number one selling category of toy this Christmas we find ourselves as a target.

There is sufficient reason to doubt their conclusions about violence in video games. Many of our games offer ample proof of the positive role video games can play in aiding a young person's physical, mental and social well being.

All video games and much of life in general revolves around opposing forces. It is these challenges which lead to an achievement orientation. It results in the player feeling like he is a hero and therefore contributes to his self esteem. This is a constructive and admirable achievement for any young person.

From the time when most people played Cowboys and Indians as children to this present day, no conclusive research has shown that toys involved with violent themes produce violent behaviour.

Peter Main,
Nintendo vice president

Violent reactions II

The player is largely free from fear of ridicule or rejection, the impartial machine being his only grader. In short, video games provide the player with a sense of participation and excitement in a very limited and safe way.

Dr. D.N. Perkins,
Author of Mind's Best Work

Violent reactions III

Beating up bad guys, with one hero taking on all these people in video games, channels aggression.

Marilyn Sacks-Rabin,
Clinical psychologist

Radecki: A stickler for stickers

Violence breeds violence II

The huge majority of computer games are hypnotic and habit forming. Some kids are spending more than fourteen hours a week playing video games and that's another hole out of time which could be spent usefully. That has no socially redeeming aspect whatsoever. It's a total waste of time.

Isn't violence already part of our society? In fact, hasn't it been such since the year dot?

The killing here is often of a gratuitous nature. On the whole you can't say that about something like Shakespeare – although there are exceptions. For warfare to be glamourised like this bodes ill for our children and for the future of the world. Surely, we want to make our world a peaceful one?

Isn't it absurd to try and produce computer games which don't incorporate violence?

That's nonsense. There are many ways of stopping violence and therefore its harmful effects. Computer games such as golf are very popular.

Japanese and American toy companies are making a serious mistake using war and killing as a means of entertaining children. We are forgetting the lessons of World War II and of the numerous smaller wars since that time. Making a game out of killing is one way to reinfect the world's next generation with a violent way of thinking.

These games are both symbolic of the increasing support of militarism in our countries and reinforces this dangerous way of thinking. Our governments must find a way to stop this growing trend.

We want the Government to look at this report and we suggest that they recommend warning stickers on games explaining just what they are. It is the responsibility of elected officials here and in England to stop defective products from reaching children.

Dr. Thomas Radecki,
Research director of the International Coalition Against Violent Entertainment

Violence breeds violence III

I would have thought that a game which involves gaining points for breaking arms or cutting off heads isn't the most sensible thing to be made available to children. We've got an Act in place to monitor which videos get into the home and I think it wouldn't be such a bad thing to do the same with video games so that they pass tests. We need a forum in which to view these games before they reach the shelves.

What sort of games do you object to most – military games in general or those which involve graphic violence?

I think the latter because war games in a sense involve planning and defence but it's different when you're scoring points for cutting people's heads off. It's very possible that the drip, drip, drip of violence has a bad effect. But psychologists no doubt differ on this matter.

When I was a youngster the only violence I saw was at the cinema on Saturday mornings with the Lone Ranger or spacemen. But children today might see a thousand homicides a week on television before playing these games. I think that cheapens life and that is dangerous.

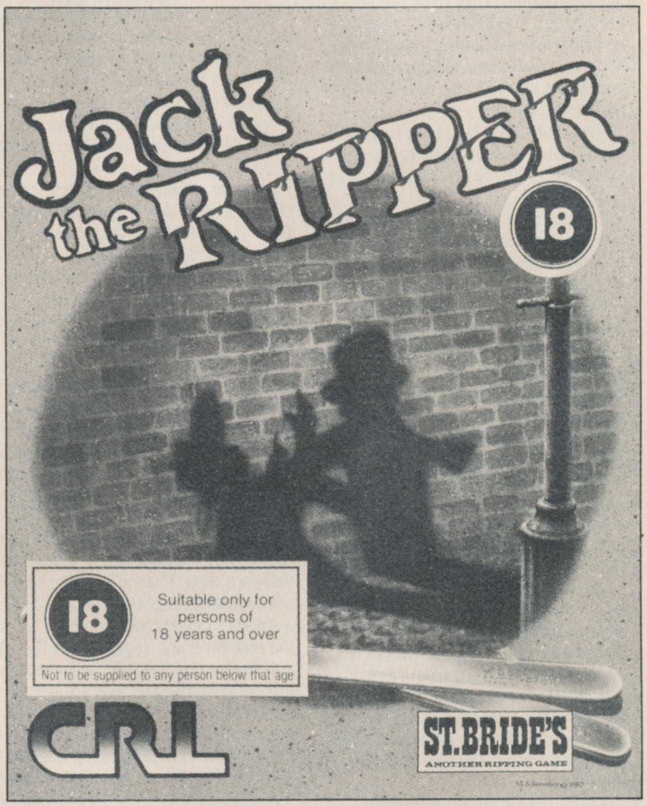
Imagine a child playing a game like this with his friends and becoming particularly good at it. He might come around to wanting to really break someone's arm.

What do you propose to do?

I will be speaking to Home Office about this and recommending an independent enquiry. I don't want to prejudge this and if any enquiry said they weren't dangerous then that would be that.

I certainly don't think we should rush out and put a ban on everything on the shelves. These are awful things but Acts aren't passed just by me sounding off.

Geoffrey Dickens,
Conservative MP and vociferous campaigner on behalf of the protection of children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Jack the Ripper: Will all games have to be classified like this in the future?

THE RECORD INDUSTRY

Two years ago a small posse of Congressmen's wives campaigned against what they saw as obscene or satanic records. Their aims were broadly similar to those of ICAVE.

Firstly they wanted particularly "offensive" records to be completely banned both from the airwaves and from record stores. Also, they campaigned to have warning stickers placed on records which allegedly included Satanic references and, more usually, bad language.

The Washington Wives' campaign was covered extensively by the press and media in the States; the record industry crumbled. Certain records have since been banned, with many more showing warning stickers. The upshot is that bands contemplating recording songs which might have offended the Washington Wives had better not have their eyes on the mass market.

BANNING: A CASE STUDY

Wargames are a sensitive issue in West Germany due to the still raw memory of the last war and the creeping underworld of neo-Nazi supporters. MicroProse has been fighting in the courts for some time now (sometimes successfully) to overturn rulings on its games.

But what happens if a popular game becomes illegal to sell? Can any banning measure ever be wholly effeetive?

According to MicroProse banning simply leads to a lot of grey imports; under the counter selling; and worst, illegal copying. It's impossible to say how much of this goes on as a result of the banning, says the firm, but the German piracy problem is much worse than even our own.

The software house loses out and yet the game is still reaching those people from whom it is ostensibly being protected.

EXPRESS MAIL

YOUR LETTERS

MAINTAINING STANDARDS

I am the owner of a PC with a Hercules graphics adaptor. I have found that there is a surprising amount of games software available for it.

I would however like to complain about the state of the documentation corresponding to the graphics adaptor. It seems that software producing companies are intent on making it as difficult as possible to find out which adaptors may be used. I find it much better if the graphics/adaptors were clearly stated on the OUTSIDE of the box, stopping the rooting round for the piece of paper that gives the nearly useless information "For use with: Composite colour, composite mono, colour monitor, mono monitor."

A clear list of graphics adaptors consisting of Herc, CGA, EGA, VGA or similar is surely not too difficult. Likewise for your games reviews: if a PC game is reviewed, a list of compatible adaptors would be much appreciated. The same applies if a PC version is available for a game being reviewed on another format.

Matthew Millar, Clifton, York

✓ ***The vast majority of PC games will run on any graphics standard. To put it another way, all the PC games we've reviewed in Express so far will run in all the various modes. Should a game appear that specifically requires – say – VGA, then we'll say so.***

In our experience, business packages usually are quite explicit about which standard is needed. But do point out any specific offenders you come across.

CRACK TO THE FUTURE

Crackers – will they damage the software industry? What a weird question seeing as a great deal of software houses' games writers learnt the finer points of their craft by cracking games from great writers and leaving from their discoveries on more economical forms of coding, structure etc!

Not a few computer journalists have also cracked games!

Other people have cracked games to "nobble" them – "Infinite lives" pokes etc and sell these through the computer mags or send them to mags in the hope of a prize. I myself have done this and won a prize on your sister/brother magazine *ACE*.

The point is there is no harm at all in this practice. Without it there would be no decent software writers and hence no games.

The harm to the software industry is when money changes hands – selling your legal copy of *Super Cosmic Mega Blasters* and retaining a copy for yourself is as wrong as bootlegging disk programs to sell on a large scale.

The purists in the Cracker Kingdom seem to be the only people who crack games out of academic interest and the challenge. When they swap disks no money changes hands. OK, the software houses lose a few sales, but this is what they have to pay to eventually get competent staff. When did you see a major software house for advertising for untrained programming staff?

Don Griffith, London W6

✓ ***Good point. To an unquantifiable extent, software houses do benefit from having computer-literate programmers who have gained their skills through cracking. And it's true that many normal games players have had their fun enhanced by useful tips and the like.***

It only becomes dodgy when games are passed on for nothing which otherwise would have been bought. Talking of which...

SIMPLY CRACKERS

First let me wish you all a Happy New Year. Thanks for the new magazine, the first I have bought regularly since *Personal Computer News* died.

Apart from the obligatory pat on the back I have written in response to your article about hacking software. Not because I am a hacker, but because I have an opinion.

About two months ago, I bought an Amiga 500 as an upgrade from a CPC 464 and DD1 system. I kept my DMP 2000 printer and, after a few teething problems, linked it to the Amiga for word processing which is my main use for any computer.

In your recent article on the merits of various computers you recommended the ST and PCW over the Amiga for word processing. I never have been interested in the "my computer's better than your computer nyahh!" argument. The best is obviously the one you have, after all, ST software is no use to me.

Where does hacking come into this you may ask. Originally I bought a rubber key Spectrum (issue 2) because a relative had a Spectrum and some software which I could copy. When I upgraded to the CPC it was to have a better printer for word processing. I outgrew the small memory, my main output being science fiction novels. The £100.00 price hike by Amstrad put me off buying the PCW and the recent drop came too late. I decided to buy an Amiga because, yes, you've guessed, I had access to copied software.

I now have 26 copied games, some compacted onto a single disk, and three pieces of software which I have bought. These are besides the free disks from the dealer and two PD disks. I also have a disk of disk copiers. Most of the copies have been hacked in some way and I admire the skill of hackers as they are much younger than me (still at school). For instance, on *Elf* there are various four-letter exclamations which come up when the Elf dies. *Battle Chess* needs no password from the handbook, and *Marauder 2* is also now password free.

The point of my letter is that FAST and the commercial games writers are wasting their time whingeing on about software theft. I can afford one of their ridiculously over-priced pieces of software about every two months. This is the amount I buy. They lose no money, and the hackers encouraged me to buy the Amiga in the first place.

If I had gone for something else, or the software had been impossible to copy, then the magazines, the disk safe manufacturers, the blank disk manufacturers and the software producers, would have lost a considerable amount of revenue from me. I have spent more money on computer related items for the Amiga in the last two months than in the last year of owning both a CPC and Spectrum +2.

I say carry on hacking, it's the only way many of us will ever get to see much of the software. The ones I have are *Bard's Tale*, *Rocket Ranger*, and *Kind Words* (at your recommendation). All three were excellent buys, and of the copies, I may have bought *Carrier Command* and *Mercenary*. The rest are rarely loaded and the disks will eventually be used for wp files. As with the Spectrum and CPC a lot of software is crap. The good stuff will always sell.

Bill Cox, Matlock, Derbyshire

✗ ***There are a number of peculiar points here. Firstly saying "The best computer is obviously the one you have" is fine if you have a computer and are satisfied with it. But if you're a potential first time buyer or an upgrader – like many Express readers – then just as obviously you need all the help you can get. If that comes in the form of "My computer's better than yours", then so be it. Preferably, that help will come through dispassionate analysis in Express.***

Secondly, on hacking – or more accurately in this context, piracy – your arguments are shot through. Code breakers may well have extraordinary talents and be very young. On that basis, a six year old who could pick pockets would also presumably be admirable.

Also, you indicate towards the end that you may indeed have bought a couple of games you obtained illicitly.

Yet you say that software houses lose no money via hacking or cracking or piracy. That doesn't stack up – and maybe it explains in part why games are "overpriced".

EVEN MORE CRACKERS

In reply to your article on the 'Gamebusters' in issue 6, it is my opinion that as crackers make no profit, it is just a leisure activity which affects nobody. Some people like to play games: these people like to crack/improve them. Somebody buys the original, so the software houses get their money, and I don't think that they have a claim against these people.

You asked the question, "will this mean less money to produce innovative software?" I think not. As these people do not resell copies of the games they have cracked, then I think that this question should be directed at pirates. Then the answer would be yes.

Also, I have just purchased an Amiga 500, with modulator, software etc, and after trying six copies of Anco's *Sky Fighter*, we still did not find a working copy, is this a common problem? We were lucky and exchanged it for *Rocket Ranger* which is brilliant. Keep up the good work as the mag is great.

Robert Fitzpatrick, Swansea, Wales

✗ ***We've said our piece on crackers for the time being.***

Your Sky Fighter problem is news to us. If you are experiencing these sort of difficulties, you should phone Anco on 0322 92513. Ordinarily, we would have found out for you, but Anco was unavailable when we phoned. You see, the peculiarities of magazine publishing are such that we're putting this section together at 3.30pm on Christmas Day.

That, of course, is a lie. It's 5.20.

WITH AMIGAS LIKE THAT...

Recently, after weeks of decision making, I bought an Amiga 500 in preference to an Atari 520ST. Suddenly people around me started saying that the A500 had no future. They said that it wasn't very popular in this country and would soon be discontinued, like the A1000.

To add to my worries, I hear that this new ST Plus is coming along. Is it true that the ST plus will cost £400? If this is the case then has the A500 had its chips?

As complete beginner, I know nothing about the 16 bit market. Could you tell me how the launch of the ST Plus might affect the A500? Also, could you tell me how popular the A500 is worldwide and what kind of future it has. Thanks!

An Amiga owner, Glasgow

✗ ***What rum chums you have around you! The A500 isn't as popular as the Atari ST in the UK, but there's no way it's going to be discontinued in this decade. Current sales in this country are around 60,000, with total worldwide levels approaching one million. That means that it has a healthy future regardless of what Commodore or Atari may do. Software houses and peripherals firms will not walk away from those figures in a hurry.***

As yet, there is no confirmation of the ST Plus' price. Indications are that £400 sounds a little bit optimistic – though that may well be typically smart Atari pre-launch disinformation to make everyone fall over in surprise when it is, indeed, finally revealed to be £400.

It is true that to a limited extent the ST Plus will affect sales of the A500. But more likely, both machines will do well by enlarging the market rather than competing directly with each other.

MORE +2A PROBLEMS

I purchased a new black +2A Spectrum last month. I thought it was just me having problems loading software – being very new to computers – until I read Roger Marsh's letter in *New Computer Express* Issue 6.

Someone lent me a selection of games. The *Chess* was no problem but *Back to the Future*, *Pioneer* and *Popeye* all caused difficulties. For example in *Back to the Future* you are supposed to be Marty McFly and keep George and Lorranie together or else the family photograph will disappear and you will cease to exist.

All I could get to happen was for Marty to walk up and down – then the photograph vanished and he was zapped! With *Rallydriver* it seemed to load OK but then the screen went back to the 'Amstrad 1982' again.

My computer is not solely for games. I have been learning a bit about programming and finding this very interesting.

I must admit feeling very disappointed with my +2 and wondering if I should have spent my money elsewhere!

K.M. Walster, Cleethorpes, S. Humbs.

✓ ***In the absence of a satisfactory explanation from Amstrad, it looks as though you have indeed been landed with a bit of a stiff. All we can do is repeat earlier comments that +2A owners should ask software retailers to run any program they intend to buy on the machine before they actually pass over any money.***

EXPRESS
MAIL

Dear Reader

Why don't YOU make a contribution to the Britain's liveliest, most up-to-the-minute computer forum? Whether it's outrage, angst, humour, pleas for help, or closely-argued opinion, we'll read it and, most likely, print it. You might even win one of our famed mystery prizes. Write to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

THE REAL THING

Congratulations for at last publishing a computer mag that doesn't pull punches when criticising hardware and software producers.

My own particular frustration is with simulation games that claim "realism". Being an ex-pilot (I can no longer afford the expense) I hanker after a really decent flight sim. Nothing on the market comes anywhere near the "feel" of true flying, although *Flight Simulator II* could but for its jerky screen update.

So many simulators fall into the same trap: plenty of options and complex instrumentation, wonderful 'padding' but they all fail on the most crucial aspect: SMOOTH SCROLLING!

Mirrorsoft's *Falcon*, just released for the ST, is a classic example in that clearly hundreds of programming hours have been spent find tuning everything but the most important feature. The instrumentation is excellent but the actual flying falls way short of what Mirrorsoft claims. *Carrier Command* has proved that smooth horizontal scrolling is possible on the Amiga and ST, so why don't flight sim producers take a leaf out of Realtime's book and come up with something worth the £29.99 some charge?

Finally *Lombard Rally* is a good example of a car simulation failure. Again there are many features but the actual driving is a disgrace with appallingly indistinct and jerky graphics. If I had the time and money I would sue the makers for gross deception in their advertising blurb.

Come on all you simulation buyers! Join with me and tell the software houses you expect a lot more for your money, and tell magazine software reviewers to buck up and stop praising software which falls far short of the producer's claims.

Robert Young, Eastbourne, Sussex

Mystery WINNER prize

✓ Aside from the actual game play details, the trouble with claiming too much realism in simulators is that they necessarily have to fall short. If you really want to simulate an aircraft, you'd have to produce a game that you couldn't play for more than two thirds of the time. They tend to be stationary in hangars for long periods, you see.

Still, sims are definitely improving. Objective reviews coupled with fair criticisms can only help.

Meantime, you've won our Special Mystery Prize of the Week: Infogrames' Purple Saturn Day on the ST. It may not be a simulation, but it's the best ST game we've seen for ages.

BOUQUETS AND BRICKBATS

I have at last decided to put printer ribbon to paper to write to your magazine. I enjoy *New Computer Express* immensely, the high street shopping part of your "which computer?" article was absolutely hilarious! I agree with your choice of the best buy in computing as the ST is a good buy for the money: guess who has an ST and is glad he got one!

The magazine is generally excellent. Perfect word processing (issue 2) and the above two, make good examples. The news section is the best I've read and the jargon buster section is fairly useful *(That good, eh? – Ed).*

Only a couple of complaints though. The words "our reviews are laid out differently to run of the mill computer mags...." annoyed me because I get sick of every new computer mag crowing incessantly about "our reviewing system is the best" when most of the time their reviewing system is just the same old system rehashed slightly.

The only review system that I think has the right to say this is *ACE* with its system of assessing long term playability (more about this later) and detailing which computers a title will be released on and when. I'm afraid your system comes under the rehashed system but at least it doesn't suffer from the "Oh dear these colour pictures have faded to black and white" syndrome, which severely naffs me off.

Onto the real reason for my letter. "The games that take over your life" section grabbed me by the short and curlies and said, "Yo! My man, these are your sort of games".

I have had large chunks of my life swallowed by this sort of game. You get the feeling of getting your money's worth, you don't get the "I'm stuck in this adventure" or "I can't get past this mother-[short expletive] of a mother ship". In addition you also get the adrenalin flowing almost as often as in shoot 'em up and use the mind *Dungeon Master*, *Alternate Reality* (played to death on the Atari 800XL and on the ST, truly incredible game), *Phantasie III*, *Ultima III*, *Bards Tale*, *Rings of Zilfin....*

I can't emphasise the addictiveness of these games enough. I enjoy the odd shoot 'em up (*Nemesis* on the MSX being one of the exceptions here), but aren't nearly as long lasting.

Dean Southall, High Wycombe, Bucks

✗ Saying that games reviews are laid out differently to other magazines appears a particularly modest sort of claim to make. It really isn't the same as saying our approach is better, regardless of whether or not we might believe that.

So in the true spirit of goodwill to all men, if it caused any offence – tough.

+3 HELP WANTED

I do not yet own a computer but with the help of your cover feature "Which Computer" I decided on the Spectrum +3. Your magazine is very good and is unlike other informative magazines.

Can you please tell me where I can purchase the *Tasword* word processor? Can you please tell me if *Out Run* is out on Spectrum and where and for how much I can buy it?

Colin Sullivan, Kilburn, London NW6

✓ *The nifty little* Tasword *should be available through most decent independents. Failing that, try contacting Tasman itself on 0532 438301.*

Out Run *is indeed available for the +3. But you're probably better off buying* Giants, *the US Gold compilation featuring the game plus* Gauntlet II, Rolling Thunder, California Games *and* 720 Degrees. *It costs £19.99 for the +3, and it'll be a major achievement to find any software seller that isn't stocking it. Otherwise, try US Gold itself on 021 3563388.*

GRAPHIC DETAILS

Not too far back in the dim and distant past (last winter actually) I owned a CBM 128 and disk drive. When I came home from work at night tired and weather-worn, the first thing I looked forward to was a spot of computer entertainment.

Trouble is after flicking through my software for 15 minutes, nothing caught my eye. It just didn't seem worth the effort to boot up. *Ghosts 'n' Goblins* was the only game I ever bothered with. If only I had an Amiga, I would sigh, every game would be brill.

Well it's winter, I've had my Amiga since spring and I've got loads of games but it is still the same old story – well almost. My point is this: games have got to have depth, challenge and strong gameplay, be it arcade, adventure, shoot 'em up whatever the machine. Great graphics soften the blow of shallowness but in the end you still end up in the same place: frustrated.

Anyway, I've learnt my lesson. I was going to buy *Rocket Ranger* this month but I think I'll try *Nebulus* or *Galdregon's Domain* instead.

C A Horsley, Walsall, West Midlands

✓ One of the problems in the early days of 16-bit machines is that the programmers and software houses appear to have fallen over themselves in wonderment at the increased graphics' potential. More thought was put into the look of games and less into the content. It has improved since then, but coming up with innovative, interesting scenarios really isn't that easy.

MSXCUSES

Yes, yet another MSXer, and by now you will know there are considerably more than the 14 that had written to you by your 4th issue.

Maybe (unusually for the Japanese) something in the marketing of the MSX standard in this country went seriously wrong. At the same time, the software houses here made little effort to understand and use this system, resulting in a poor supply of a poor standard of software, and some of that being not compatible over the whole range of MSX models. Also, perhaps understandably, those here with vested interest were either very reticent or in the case of Sir Clive Sinclair very scathing, on the setting of a standard.

Yet the incidental near setting of a business computer standard by Big Blue (in spite of their protectionism), demonstrates how many makers of machine all using the same standard could benefit the consumer.

The MSX-1 Basic was arguably the best of its time and development to MSX-2 makes it perhaps still the best around – e.g. the considerable graphic and drawing capability are the simplest to use. And with what other Basic programming can you digitise a picture from television or video, or put 256 different colours anywhere on the screen at one time?

Possibly, the real mistake was in not using the MSX-2 for the MSX debut in this country. In '85 the only comparable micro would have been the Amiga 1000, which could not have compared on price or availability, although its performance was potentially much greater.

Meanwhile, as David Webb so rightly comments (issue 5), people have been lured to spend more money on complete new 16-bit outfits instead of being able to update or expand what they already have.

Given that the potential of a 16-bit system can be greater than that of an 8-bit, the sales potential of new and specific (16-bit) micro computers has been fully exploited, yet the capability of the Z80 and of a standard system (with less money-making potential) has not. The Z80 can address 4Mb and there are no 16-bit home business or games programs using that. The Konami MSX cartridge games are quite equal to the graphics of the 16-bit products and the Yamaha products are equal to the music and sound capability of the Amiga 500. You might need add-ons, but not a whole new outlay for a whole new system.

However, accepting that your gentle MSX knocking must be tongue in cheek, *Express* gives excellent coverage of the computer scene and excellent value.

D E Booth, Southampton, Hants

✗ Don't blame the software houses for the failure of MSX. They're interested in producing games for a sufficiently large installed base. It is not up to them to help make that base large enough to be economically viable to produce games on.

MSX 2 may well be a superior system and have other general advantages over existing formats. But if the numbers aren't there and now can't be there, it's all a little bit irrelevant, sadly.

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Adventure Art Studio	69.95	50.50
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G.F.A. Draft Plus	139.95	115.00
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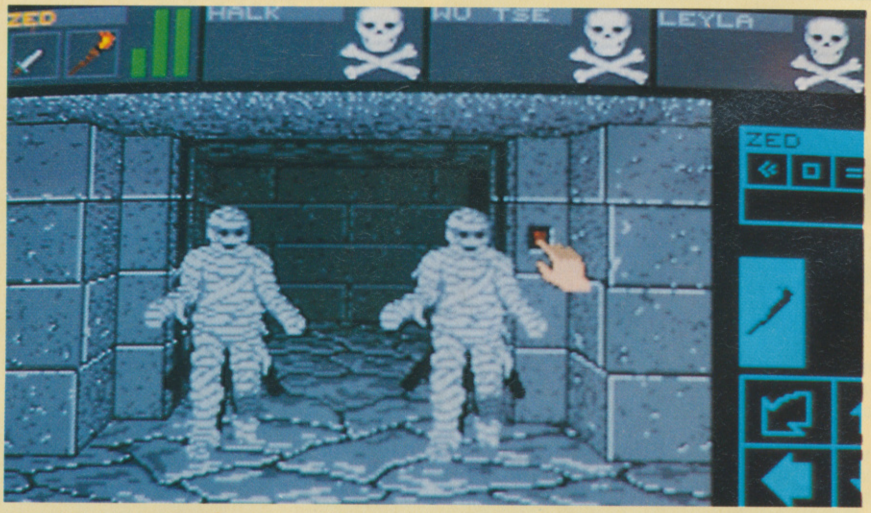
● A couple of Amiga blitzers hit the headlines this week, both in from the States and both due out soon.

***Sword of Sodan* brings you glitzy graphics and snazzy sounds while *Dungeon Master* – well you *must* have heard of *Dungeon Master*.**

You'll probably sink to the depths of despair with *20000 Leagues* while you're submerged in sub-aquatic searches.

But if it's a good old spot of sport you're looking for then there's *Skateball* and *Skate or Die*, two addictive little numbers that make *Rollerball* look like *Tiddlywinks*.

On the board game front there's *Archon*'s shoot-em-up strategics and finally *Gauntlet 2*'s 8-way scrolling maze mayhem. So, no turkeys after Christmas! Which is probably just as well.



DUNGEON MASTER

MIRRORSOFT

Amiga £24.95dk
Already out on ST

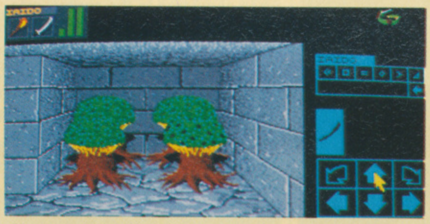
The definitive mix of RPG and Adventure arrives on the Amiga amidst a degree of excitement matched only by that generated by its ST parent. We reckon *Dungeon Master* looks like a straight port of the Atari version released in May 88. Does it matter? Or should we expect more from a conversion that could have significantly enhanced all the endearing features of the game, one that's guaranteed great sales throughout the Amiga world?

INSTANT CLASSIC!

● GAMEPLAY

You play an apprentice wizard following the footsteps of 24 other adventurers who've valiantly failed in their attempt to retrieve your master's Firestaff from the Dungeons of Lord Chaos.

After a short walk in the labyrinth, you come across portraits of these brave losers and can resurrect four of them to join you in your quest. They act as your agents in so far as they're in the firing line for various confrontations you encounter. Each have specific attributes such as health, stamina and Mana (magical energy), that hopefully improve during gameplay, so you can choose which one is best suited to solving the particular task at hand.



• You can eat these trees!

Every injury, use of weapons or magic will result in a corresponding drop in that character's attribute level, so if one becomes too deficient in any respect it's best to rest them for recuperation and put another at the forefront of any encounter. If it's safe to do so, you can speed this up by commanding your entire party to sleep.

As your mission requires brain as well as brawn, you need to choose a team that combines skills in fighting, wizardry and first-aid. In return, you have to keep them fed, armed and equipped with supplies found throughout the maze.

The Dungeon comprises 14 levels of corridors and chambers in which there are a multitude of messages, objects and secret doorways to find, at the same time as dealing with mapping, monsters and mummies. There's also a fair smattering of logic puzzles and riddles which require varying degrees of reasoning. Add to this the need to cast a range of magic spells and you have all the essential ingredients of a large fantasy adventure – so it's a good job you can save your position at any point!

● GRAPHICS AND SOUND

Dungeon Master's screens consist of control icons surrounding a central window which quickly redraws when you click on direction pointers. Attribute and inventory information is displayed via pop-up windows. Although effectively conveying the mystery and scale of an immense underworld, against *Galdregon's Domain* the visuals look distinctly staid and somewhat repetitive.

So, although they're nicely drawn, there's little in this version's graphics to leave you spellbound by the superior graphic power of an Amiga. But then it's the strength and longevity of gameplay that's the central factor here. Ambient sound is sparse but spot-effects are great. They add tremendously to atmosphere.

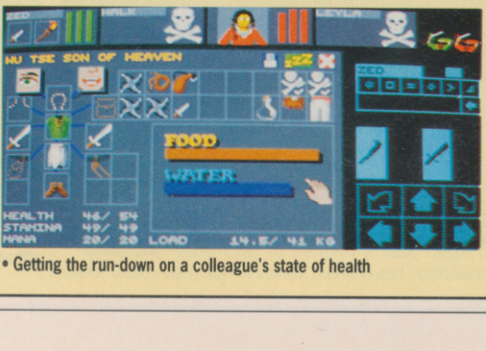
● OTHER VERSIONS

The ST outing is outstanding and has sold in droves – Mirrorsoft claims it's been bought by one in five owners of the machine.

● EXPRESS VERDICT

Dungeon Master will surely become the realtime role-playing game against which all others are judged. This is a testament to in-depth game design with enduring consistency rather than audio-visual excellence. Whilst there's little on the market to touch it – well let's be fair, only one other release of note – *Dungeon Master*'s a purchase that'll have you labouring through its labyrinths for months and months.

✪✪✪✪ **Andy Storer**



• Getting the run-down on a colleague's state of health

20000 LEAGUES UNDER THE SEA

COKTEL VISION

ST • £19.95dk
Due out on Amiga, PC, CPC

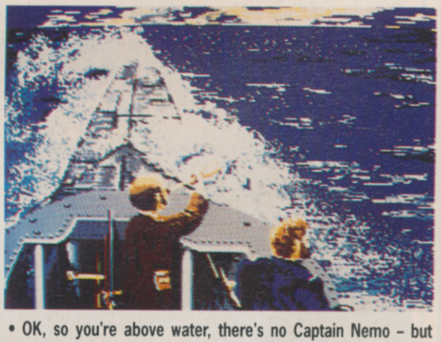
Arcade adventures go down a storm with the French, and this one goes deeper than most. Will the conversion of Verne's classic to code plummet to new depths, or surface with major sales? Maybe it'll just drive you round the bends.

● GAMEPLAY

This is dead existential, mateys! You play Professor Aronnax, who, along with his servant Counsel and harpooner Ned Land, has been abducted aboard the submarine Nautilus by Captain Nemo. Your mission, of course, is to escape from Nemo's clutches, and you do this by saving all the pertinent information you come across in your notebook, compiling a map of the sub's progress, and exploring Nemo's library for clues. But watch out – if you're too curious you get confined to quarters. Coktel suggests to succeed you'll need a fair degree of reflection, deduction, courage, dexterity, attention and sense of psychology. To which we can only add patience.

● GRAPHICS AND SOUND

Visually, *20000 Leagues* is very competent. It has beautifully drawn Baroque interiors and skillful use of sub (!) - screen windows depicting localised information and action in animated form. Sound is confined to the spot-effects from various objects encountered and activated.



• OK, so you're above water, there's no Captain Nemo – but that's the least of your worries

● EXPRESS VERDICT

A curious release requiring an original approach to puzzle-solving. Besides needing to search for particular information you also have to contend with the varying moods of Nemo himself, and in this sense *20000 Leagues* is probably unique. The aim is not so much to locate, examine and use objects but to peruse, assess and utilise information. If you're a confirmed adventurer then Coktel's vision will have you reappraising the style and content of every game you've played.

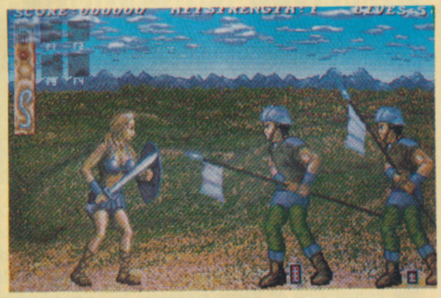
✪✪✪✪ **Andy Storer**

SWORD OF SODAN

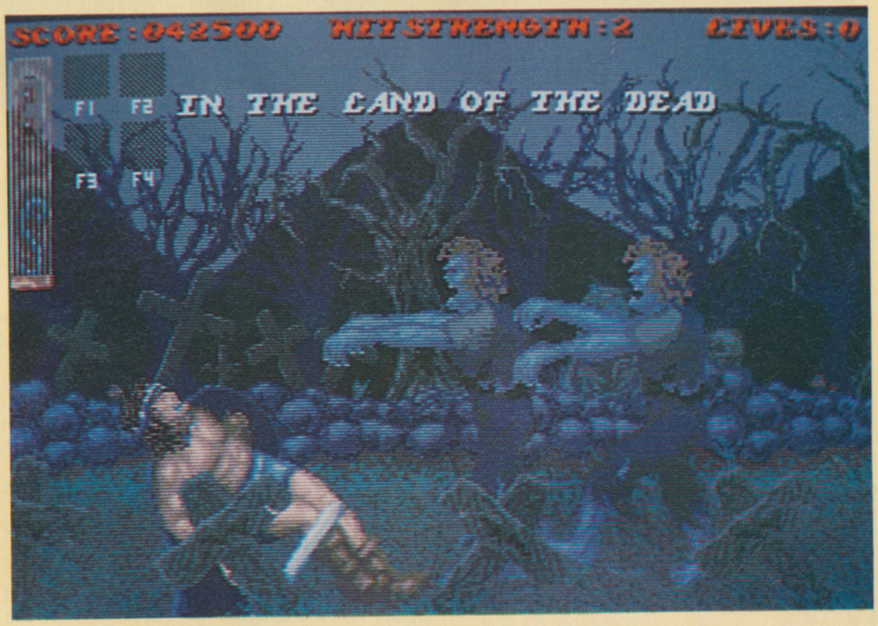
DISCOVERY SOFTWARE INTERNATIONAL,
USA

Amiga £29.99dk

Sodan is the pseudonym of a demo creator from Denmark who has produced some of the best Amiga demos thus far. So it was only a matter of time before he extended his programming skills to writing games. *Sword of Sodan* is the result and is imported by Gainstar, Unit 1, Rear of 7 Wellington Road, Sandhurst, Surrey GU17 8AW. Tel: (0252) 877431



• Has our heroine met her match?



• These two zombie have just wiped you out

5
GAME

● GAMEPLAY

Sword of Sodan follows the route of the horizontally-scrolling hack-em-up, playing in a similar fashion to *Barbarian* by Palace Software.

Taking the role of Brodan or his sister Shardan (no software sexism in this release), you'll have to travel through 11 multi-load levels battling against a myriad of hideous and horrifying creatures ranging from pogo-jumping punk-orcers (complete with Mohican haircuts) to flying dragon grubs with an unhealthy taste for your flesh.

As well as wielding a sword you'll be able to pick up potions (after you've destroyed the odd beastie) to give you goodies such as an extra life, power shield (limited invulnerability) and a magic zapper (kills the enemy closest to you).

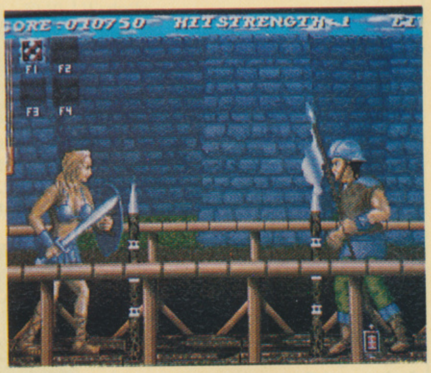
Wise use of these extra goodies is an important factor in whether or not you'll reach the confrontation with the evil necromancer and topple him from the throne of Lordan.

● GRAPHICS AND SOUND

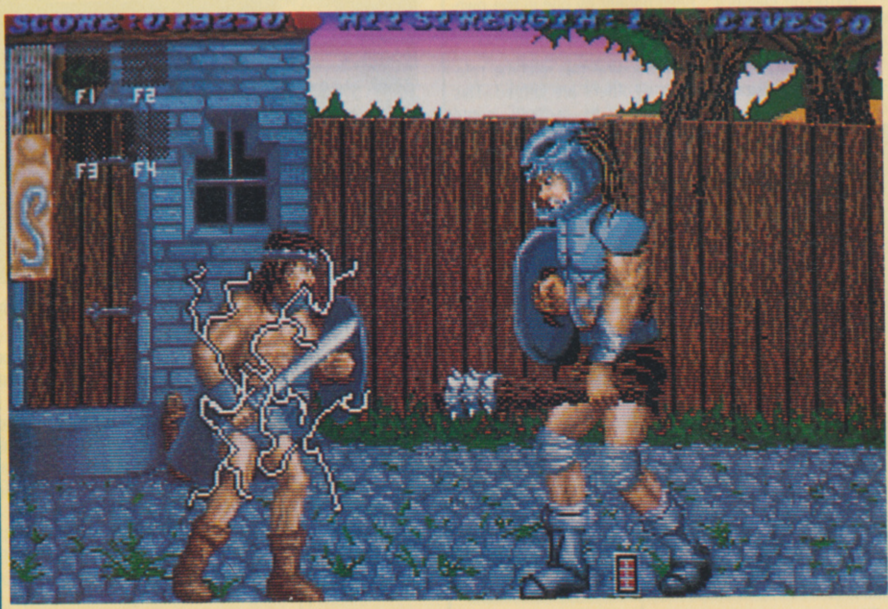
The really impressive aspect of *Sword of Sodan* is its amazing audio-visuals. From beginning to end you're presented with superb images matched by fantastic sampled sound-effects.

When you start each game you're greeted with a brilliantly drawn screen representing the hero and heroine, accompanied by a male voice asking for your choice (this male voice acts as a 'Dungeon Master' throughout the game, giving hints and tips as you start each level).

Starting play provides you with the first glimpse of the startling graphics (and sound), as you witness your four-inch high sprite engage a horde of equally large guards to the sound of "Halt stranger!". That's just the start, though, because you'll visit levels of outstanding audio-visual quality which will leave you gasping and your Amiga-less friends green with envy.



• This pike-wielding woodentop is about to get his joust deserts



• A whole new meaning to 'knightclubbing'

The only slight visual quibble is limited number of sprite animation frames, but this is a really minor flaw when compared to the sprites' size, definition, colouring and sheer imagination. Sprites are matched by the impressive backdrops, which are so detailed that you don't notice the game's impeccable programming – including parallax scrolling foreground elements.

The sound-effects are all high-quality samples and consist of the usual "Aaargh"-type grunts and groans complemented by extracts of speech by the aforementioned 'Dungeon Master'.

● OTHER VERSIONS

No details of *Sword of Sodan* on any other home micro format are currently available.

● EXPRESS VERDICT

Sword of Sodan has superlative audio-visuals which give an indication of what the Amiga is capable of when someone actually bothers to delve into its inner depths. What *Sword of Sodan* doesn't have is varied gameplay, though the desire to see the next level overrides this lack to such an extend that you hardly notice.

A touch overpriced, *Sword of Sodan* is nevertheless a worthy addition to any Amiga owner wanting to discover and display its fantastic audio-visual capabilities.

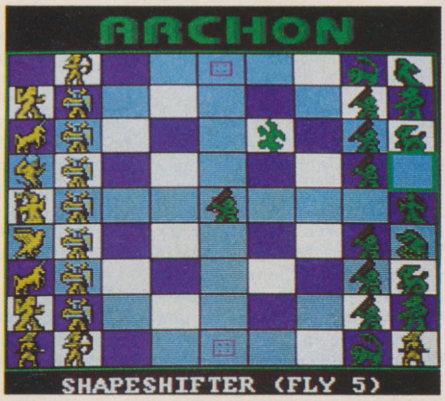
✪✪✪✪✪

Rik Haynes

THE ARCHON COLLECTION

ELECTRONIC ARTS

Amiga • £19.95dk
Out soon on Spec, C64, CPC



• A near-perfect blend of strategy and shoot-em-up action. This game plays better than it looks

The Archon Collection is a compilation of *Archon* (a classic and hugely successful combination of strategy and action) and *Adept: Archon II* (a slightly less successful follow up).

● GAMEPLAY

Archon places you and a computer-controlled opponent (or another player in a two-player game) in control of the forces of either light or darkness in a fight for ultimate supremacy.

Play consists of moving your forces (pieces) across a chequered board with five flashing squares. The aim is to capture all five of those squares, wiping out all the enemy pieces or imprisoning the last one.

When one of your pieces attacks an enemy piece the view of the board is replaced by a fighting screen where you have to battle (shoot) it out for the square.

Adept follows a similar approach but lacks the excitement of *Archon* due to its stronger strategic flavour.

● GRAPHICS AND SOUND

You can see and hear that *Archon*'s roots date back to 1983. It's too primitive by today's standards, with ineffective sprite designs and animations and mundane sound spot-effects.

Adept fares no better – both titles could do with a great deal of improvement in audio-visuals.

● OTHER VERSIONS

The other versions look and feel like the Amiga version. It's the gameplay that counts in this release, anyway.

● EXPRESS VERDICT

The Archon Collection contains a classic computer game (*Archon*) which would attain a five-star rating for its gameplay (*Adept* is slightly less impressive), but is let down by its poor-quality audio-visuals which could and should have been upgraded to *Battlechess* standard.

✪✪✪✪ **Rik Haynes**

SKATEBALL

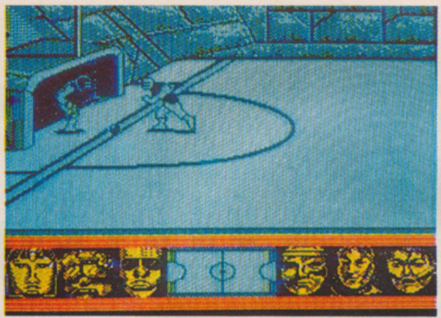
UBISOFT

Spectrum • £8.99cs, £14.99dk
Due out on ST, Amiga, PC, CPC, C64

Fancy a game combining soccer and ice hockey with the kind of friendly player interaction to be found in *Rollerball*? Look no further.

● GAMEPLAY

You choose a team of four players to act as reserves for your assault upon the computer/other player opposition guarding their half of the pitch, in this footie/hockey kick-em-up. There's a whole host of on-pitch obstacles to keep you on your toes, too.



• You're the one in goal just about to get spread over the back of the net

After a while you'll realise that the computer is far more accomplished at ball control than you, and that your only chance is to hit whack your opponent at full force whenever he nears the ball. Yup, there's no rules in this game. All you have to do is score four goals, which will see you through to the next level. Which isn't so easy, since your opponents are the meanest sons of expletives this side of *2000AD* and only too willing to total you at the slightest excuse.

All this adds up to a game which will keep you riveted just in terms of sheer revenge alone. Play a game against a friend and it's only marginally less likely to end in bloodshed, since violence rather than sport is the operative mode of the day.

● GRAPHICS AND SOUND

Each level is previewed by a brilliant horizontal scroll to show you the state of the pitch. As the pitch usually comprises terminal obstacles of varying descriptions, this is absolutely essential. Animated sprite action is fast and smooth and compares admirably with the best of Spectrum graphics. Sound is confined to the minimal *boings* you've probably heard on Amiga demos.

● EXPRESS VERDICT

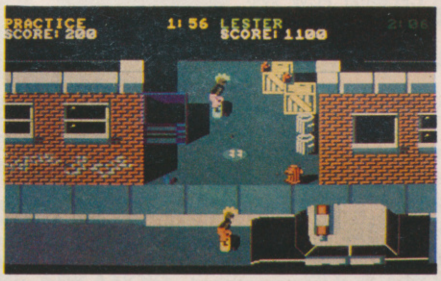
A frustratingly addictive outing that'll have you coming back for more. Spectrum *Skateball* will test your joystick and keyboard skills to the limit as you barge, kick, slip and score your way to the top.

✪✪✪✪ **Andy Storer**

SKATE OR DIE

ELECTRONIC ARTS

PC • £24.95dk
Also on C64
Out on Spec Jan, CPC Feb



• Punk skaters get down to some serious bopping

Electronic Arts is risking its reputation on skating being 'in' this week, but that may not matter as C64 *Skate or Die* was a great success last year. Presumably EA's hoping the same thing will happen with the PC version this year.

● GAMEPLAY

Starting in Rodney's Skate Shop, you're given the choice to compete or practice in five events (pool joust, downhill race, high jump, jam and freestyle) in this one or two-player keyboard or joystick-waggling sports-sim.

During play you'll need to perform a wide range of skate tricks such as kickturns, aerials and handplants (nobody over the age of 15 should know what these tricks actually are!).

● GRAPHICS AND SOUND

Skate or Die's CGA graphics and PC sound-effects are barely adequate, but the EGA version supports some attractive sprites and backdrops.

● OTHER VERSIONS

The C64 version is easily superior to US Gold's *720°* in gameplay and presentation, and includes a superb Rob Hubbard soundtrack on the title page.

● EXPRESS VERDICT

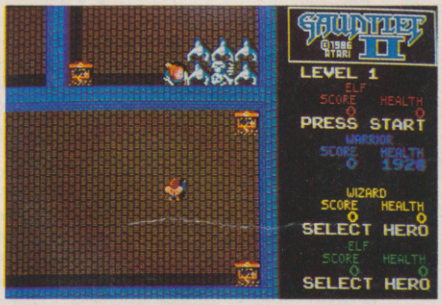
While C64 *Skate or Die* was an all round great release, the PC version suffers from inferior graphics (on CGA), sound and playability. That said, *Skate or Die* can provide an enjoyable jam, jump and joust, and is a good game for the younger PC'er.

✪✪✪ **Rik Haynes**

GAUNTLET II

US GOLD

Amiga • £19.99dk
Also on Spec, C64, CPC, ST



• Spot the difference between this and the ST version

Gauntlet II finally makes an appearance on the Amiga, some six months after its release on the ST and about a year after the 8-bits. Has it been worth the wait?

● GAMEPLAY

Gauntlet II is a conversion of the fantastic Atarisoft coin-op, where you take the role of either a warrior, wizard, elf or valkyrie in an epic journey through monster invested, eight-way scrolling mazes, frantically searching for hidden treasures, spells and food (for improving your energy rating).

Each character has its own idiosyncrasies, such as faster movement, better use of magical spells or more powerful weapons. So deciding on the right character is the key to success in the game.

Adversaries ranging from ghosts to invisible wizards will try to deplete your energy rating until you're dead, and on top of this each maze has its own selection of other hazards such as moving walls, electrified floors, and traps hiding more hordes of unfriendly creatures.

● GRAPHICS AND SOUND

Gauntlet II on the Amiga is a straight translation from the ST, unfortunately. The sampled sound-effects are slightly superior, but the sprites and backdrops are identical.

Overall, though, the audio-visuals do manage to conjure up the essence of the arcade game quite well – although the scrolling is somewhat jerky.

● OTHER VERSIONS

ST *Gauntlet II* is much the same as the Amiga version. The 8-bit versions can now be found on the compilation *Giants* by US Gold, which also includes *Out Run, California Games, 720°* and *Rolling Thunder*.

● EXPRESS VERDICT

Gauntlet II is a reasonably good arcade conversion. The trouble lies in the competition. Rainbow Arts' *Garrison I* and *II* (both *Gauntlet*-type games) were programmed specifically for the Amiga, and thus put its features to better use.

Still, *Gauntlet II* does have an edge with its simultaneous four-player option, although it'll cost you around £30 to get fully kitted out with the extra three joysticks (say about £8 each) and the adaptor (£5.95).

✪✪✪ **Rik Haynes**

DOS or bust

Part VI: The Amstrad army marches on its stomach for fights. This time, as William Poel relates, it was taking on the PC world

It was the autumn of 1985. The PCW was beginning to race away and create one of those apochryphal shortages of Amstrad computer products we've come to treat as part of the marketing mystique. The blackboards at Amstrad were covered in details of shipments on the high seas, and the names of the lucky outlets allocated to receive them were chalked alongside.

The famous 3" disk suddenly became rarer than a sober journalist at a press reception. The wheeling and dealing that went on to obtain supplies of this plastic gold was pretty outrageous, and Amstrad held the whip hand by tying up supplies from only two sources. At one point it was shipping around a million disks a month, and making a seriously large amount of money out of each one; a sum not unadjacent to a pound each in the heyday of the 3" shortages.

It was a classic case of supply and demand, and wouldn't we all be glad if such an opportunity presented itself to get rich quick? Business, was, as they say, good.

LocoScript turned out to be remarkably popular with the masses who didn't read computer magazines and so didn't realise that they ought to be finding it impossible to use and positively antiquarian. The early version was fairly quickly superseded by the 1.2 edition, which then remained remarkably unaltered until the entirely new version 2 appeared much later.

However, with that little lot out of the way and now a matter of production and shipping, there was the big coup of 1986 to consider.

Fiddling STs

During the summer of '85, I managed to talk my way into getting hold of one of the very first Atari ST systems in the country. I concocted a tale about being a software developer, and paid over the money when I went to collect it. I proudly set this up outside my office and had a fiddle with the GEM desktop.

At the time, it was the only piece of software around, and the machine was oh so incomplete and unfinished. It was plainly do or die for Atari if it had to ship such dreadful examples (even to developers).

More teapots, Vicar?

A little-known fact is that Amstrad has occasionally dealt in products other than electronics. At one time, it was a major supplier of teapots from the Far East to major department stores in the UK. If the Hong Kong office finds a product with a potential for a deal of profit, then the arch market trader of Mrs Thatcher's vision of GB Ltd is game for a pitch.

Mr S. came stomping round on one of his tours of inspection. He is fond of strolling around the office, and manages to appear just at the very moment that you might be gazing out of the window and trying to seek inspiration. This time he caught me fiddling with the ST, and declared it to be of no interest as it would not be serious competition for at least two years, if that. And he certainly wouldn't authorise Amstrad to pay for the thing for us to examine and consider.

So I flogged it on (at cost, honest) to a genuine software developer, HiSoft, which has since made a handsome living from the Atari ST marketplace.

At this point, I guess Mr S. had made the decision to abandon further development of the home computer marketplace with the CPC series (and it still amazes me how much life there still is in that system). But competition for the current ST? You have to be joking!

However, the Gem user interface set us thinking, and when the expected IBM clone project was got under way, we summoned the man from Digital Research (which simply could not believe its luck at being able to get money for the continued sales of the very long in the tooth CP/M operating system on the CPC and PCW systems).

The man from DR was somewhat fazed that there was not a single IBM PC or compatible in the company. So he duly hauled an AT up in the lift, and set up a presentation of DR's attempt to get back at Microsoft for stealing its birthright as universal operating system supplier. In addition to GEM, DOS Plus was mentioned, and at a price that would be hard to refuse.

Discussions with Microsoft at the time were proving (as they always are) to be tedious and unfulfilling. Microsoft had yet to be properly "confronted" by the Brentwood Beastie Boys (I can't remember who coined that delightfully appropriate phrase, I think it may even be the publisher of this noble organ in his formative years as a hack on a trade magazine).

However, MS-DOS was as American as apple pie, so when the US market was being weighed up, Mr S. concluded that the only expedient thing was to supply MS-DOS. The deal with DR had been signed, so the product went along with both operating systems. Most agree that, as ever, the DR product was the more elegant and interesting, but elegant and interesting "don't put no money in the till, do it?"

So wielding the stick with which he was going to thrash Microsoft into a pulp by launching the machine sporting DOS Plus, Mr S. got Wild Bill Gates and the Microsoft crew to come down to a deal that was acceptable. Mr Sugar unleashed his famous "tongue o' nine tails".

Poel position

I only wish I had still been around to witness the encounter, since on November 5th, 1985, I retired gracefully from the frenetic world of Amstrad to pursue the market for CP/M software for the PCW8256. Another element instrumental in my decision was a statement from Alan Sugar that Amstrad was not interested in supplying PC software. And since I had put up with the crap end of the business that long primarily to get a crack at the fat pastures of the PC software scene, I felt I might as well stroll off, as my small contribution to the specification of the PC1512 project had been made for the year.

The CP/M opportunity arose mainly because no one else would take it on, and we had a commitment to do so in order to justify the claims in the ads that the product was indeed a computer capable of running three billion pieces of software.

The Alan Sugar Story

• Sugar: Never mind the 1512's plastic, just look at the sales

So, DR was naturally absolutely thrilled to bits to be relegated to the role of the wallflower at the dance by this move, and bravely made the most of the opportunity to ship GEM.

The PC1512 project proceeded apace and, as ever, the original specification was hardly touched in order to ensure that the product turned up on time (and if it didn't, then no-one had any excuses). Amstrad duly denied its existence, the press duly refused to believe it.

I could spit. Not only had Amstrad done an about face on the statement from AMS that it wasn't going to get embroiled in PC software, after trying to get blood out of a stone when looking for CP/M software to run on the PCW, the once utterly joyless task of Amstrad software management was now one of playing the role of

WordStar is born

The big coup was when Amstrad produced *WordStar 1512* out of the hat. I don't think I had better say anything about it for fear of retribution, but suffice to say that *WordStar 1512* was the phoenix-like reincarnation of a product called *Easy* that was written in Modula and bought in a while before by MicroPro in the US. It bore virtually no resemblance to any of the other products bearing the name of *WordStar*, and thus presented little in the way of serious upgrade opportunities.

But marketing opportunism is what it's all about at Amstrad, and a rose by any other smell would still be a rose, wouldn't it, old son? And so a product whose total world sales had hitherto been counted in tens, suddenly rocketed to number one volume shifter, thanks to the name and the Amstrad marketing muscle. Oh yes, and a small thing called a "dealer agreement" which required Amstrad dealers to take stock of their software if they wanted to get shipments of hardware....

Lord Bountiful. The world of PC software, utterly fazed by the phenomenon of the PCW, began to form a disreputable queue outside the doors of Brentwood House.

Various big names prostrated themselves at the feet of Amstrad in supplication hoping for a few crumbs to tumble from the table, as it was becoming widely perceived that the Amstrad PC was going to open up a whole new vista of software bounty for the so-called budget market. A few big 'uns notably did not throw themselves wholeheartedly at Amstrad and its marketplace. Lotus remained offish, but I guess that it will shortly have a go at seeing what happens when you give Amstrad a dead product to recycle and reissue. *Symphony 1* looks to be on the cards here.

Amstrad's set-to with Borland was a brief and allegedly acrimonious affair. That's one of those things that it would rather not talk about, but Sorcim once again coined it in after showing faith with Amstrad and the PCW. A just reward for "being there", and a new lease of life for an otherwise discontinued product.

Development of the PC1512 family was relatively uneventful. The custom chips got ever more complex, but in terms of innovative design there really wasn't much scope, with the objective of IBM compatibility dictating everything about the design.

Sure it could go faster, which it duly did with a novel 8096 design from the arch innovators at MEJ, who had previous experience with a PC go-faster board called PC-Express.

Sure it could be the first all in one PC: PSU in the monitor case, this time with an umbilical connector that looked like something connecting two spacecraft after earlier simplicities.

And lob in a mouse. After all, they need not cost the £100 or so being asked at the time, and Amstrad's Hong Kong product duly costs around $5 to make.

But the incorporation of the CGA screen driver on the main board was perhaps the beginning of the decline in Amstrad computing perceptiveness, and the first slip back into the old penny-pinching days of audio. Because this meant that the PC1512 family could not run an EGA monitor and software. And EGA was just coming up to being big business.

Disunited States

The first foray into the US was with the CPC6128 at the May '85 Comdex Show in Chicago had been a learning experience for all concerned, and nearly as dreadful as everyone imagined. The grand fiasco of the exercise was to give Amstrad a low-cost introduction to the perils of doing business in the US which it never forgot.

Amstrad never quite got it together on hard disks, either. Initially it chose an unreliable source (on price, I suppose) and at the outset expected only 15 per cent of machines to be shipped with hard disks. I seem to remember suggesting being prepared for 40 per cent in that discussion with the technical director – guess who was proved right?

Still, the main object of the exercise was to zap the market with price, hype and advertising. And this lot would do nicely, thank you.

Cobbling nonsenses

The first all-plastic IBM compatible PC and monitor made their inexorable way to an even more crass and tasteless product launch at Westminster. The throng assembling at these events was growing ever larger and more notable, so it's a shame that Alan Sugar was willing to put his name to the bunch of notably dreadful old cobblers that provided a PR man's view of a sense of theatre.

However, the product survived even this nonsense, and Amstrad's PC1512 sales literature was superbly crafted and written and included the novel idea that the prices should be hidden "because you won't believe them". And, once again, the old Sugar magic did its trick and the public flocked.

Amstrad has managed to create and reach straight to the heart of yet another new market for its products. ●

NEXT WEEK:

Let's get serious

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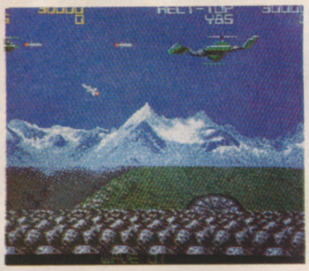
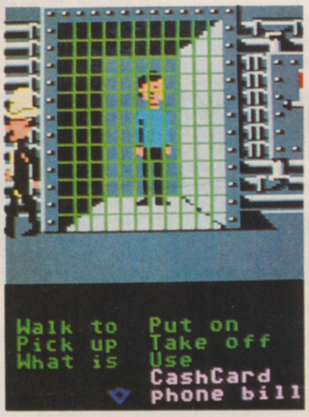
First on the Line for 89

This week we make a beeline for Reline's imports and cop a couple of nouveau beau jollies...



SILKWORM REBEL

A horizontal scroller where you battle your way through fleets of missile launchers, tanks, helicopters and jets. Team up with a friend and take control of a chopper and jeep in another of those deeply meaningful encounters with modern technology.



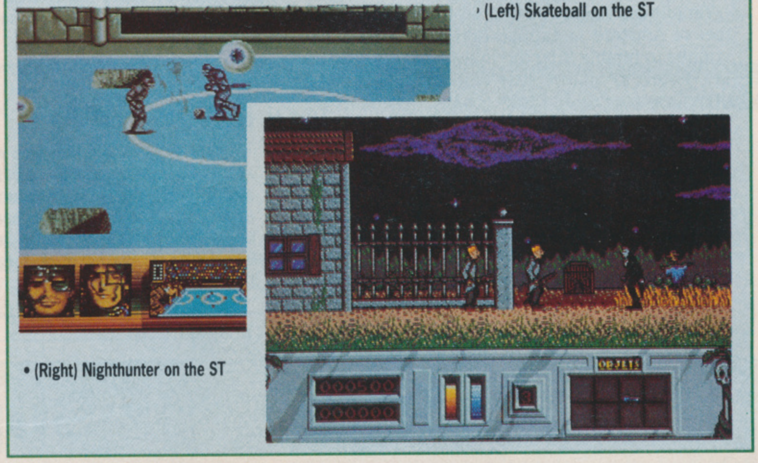
ZAK MCKRACKEN AND THE ALIEN MINDBENDERS LUCASFILM/U.S. GOLD

It's 1997 and aliens have built a stupidity machine that's reduced everyone's I.Q. to single digits. You play the role of Zak who, appropriately enough, works for a *Sunday Sport* type rag, and along with a bunch of other nutters zoom off to Mars to sort things out. Full of puzzles, Zak also features movie scenes to update your progress in this wacko arcade adventure.

Ubi taps a new vein

French software house Ubisoft also has at least five titles planned for this year. Distributed by Electronic Arts, *Iron Lord*, *B.A.T.* and *Final Command* all feature equally sexy graphics to those of *Nighthunter* and *Skateball*, the first releases (already on their way).

In *Nighthunter* you get to play Dracula on a dusk to dawn search for blood in and around your 100-screen castle. As the blood still belongs to various characters wandering around – well we won't stick our necks out by telling you what you'll have to get your teeth into. Also out real soon is the ST version of *Skateball*. Suffice to say we've reviewed the Speccy version elsewhere this week so you can check out the gameplay there.



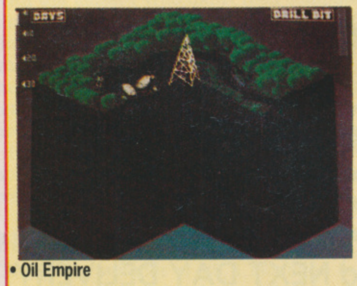
• (Left) Skateball on the ST

• (Right) Nighthunter on the ST

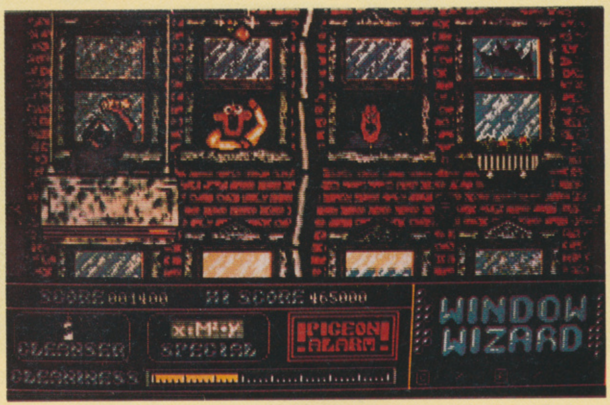
Reline in 89

Rainbow Arts, the Dusseldorf-based software publisher, has announced five titles for release on Amiga, ST, PC and C64 on its Reline label. *Dyter 07* puts you in post-holocaust mode at the controls of a super-chopper attempting to land robot troops on a Pacific Island, whilst *Legend of Faergail* finds you role-playing your way through 1,200 rooms set in eight different dungeons against 80 types of opponent. In *Window Wizard* you aim to get upwardly mobile through nine levels of animated comic-style window-cleaning and in *Adventures In Arabia* you're searching for the treasures of a Sultan with the help of swords and magic.

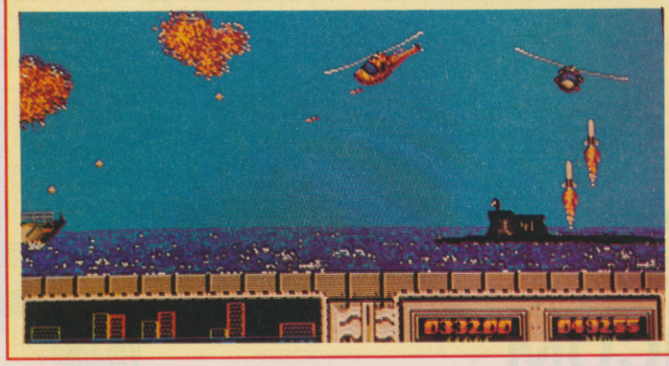
Best of the bunch, though, looks to be *Oil Empire*, where you're the President of a multi-national oil enterprise. This mouse-driven simulator offers you the chance to buy oil fields, purchase company stock, prospect drillings, order expert reports and hire investigators in a bid to become the new Ewing.

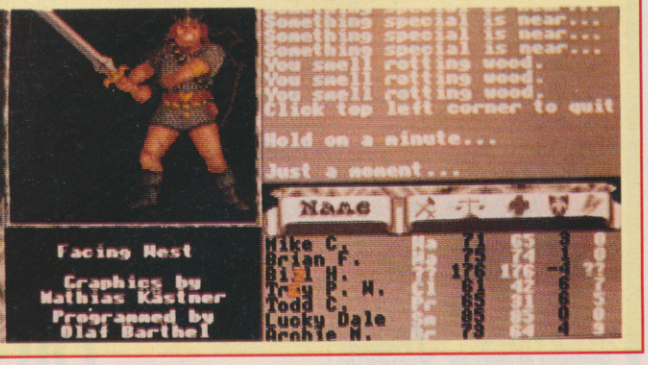


• Oil Empire



• (Above) Window Wizard: (Below left) Dyter 07: (Below right) Legend of Faergail





```
Something special is near...
Something special is near...
Something special is near...
You smell rotting wood.
You smell rotting wood.
You smell rotting wood.
Click top left corner to quit

Hold on a minute...

Just a moment...
```

Name					
Mike C.	Ma	71	65	3	0
Brian F.	Ma	75	74	1	0
Bill H.	??	176	176	-4	??
Troy P. W.	Cl	61	42	6	7
Todd C.	Pr	65	31	6	5
Lucky Dale	Sa	85	85	0	0
Archie M.	Br	73	64	4	9

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Programmed by
Olaf Barthel

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What you see... is what you see

• "What you see...it ain't necessarily what you get"

Peter Worlock continues his guide to understanding printers, and explains how your computer can show you one thing while your printer has other ideas...

In the first two parts of this mini-series on printers, we've seen that there are a large number of factors to be considered in deciding which printer to buy for use with your computer, and in getting the computer and printer to talk to each other.

And after all that, we've only made a relatively minor achievement: getting the printer to output a file in more or less plain text.

Once upon a time that would have been enough, but no longer: many users want to print graphics, and if you have an interest in any kind of desktop publishing you'll want both graphics and a variety of typefaces, type sizes and type styles.

However, as far as your printer is concerned, there's no difference between text and graphics (unless it's a daisywheel, and for our purposes daisywheels don't count).

We've already seen that when your computer sends out text it's actually sending a string of numbers that form the ASCII code. But when those numbers arrive at the printer, the printer converts them into a series of dots – just like graphics. Everything is dots.

It took computers a long time to catch up with this notion and only the Macintosh and Amiga use this method as their standard way of displaying things on the screen. However, any computer with a hi-res display can use the same process, and that's what desktop publishing and other graphics software does. The method allows any computer to use different typefaces and fonts as well as graphics.

WYSIWYG

Queen of Raunch Tina Turner once told an audience, "What you see is what you see – it ain't necessarily what you get". She probably had something else in mind, but Tina could have been talking about computer printers.

It's obvious when you think about it that the only way of achieving true WYSIWYG is where every pixel on screen corresponds to a single dot on the printer, but that isn't what people mean when they talk about WYSIWYG. Such a printout would be considered very crude.

For example, most cheap dot matrix printers offer a resolution of about 120 to 150 dots per inch. On a standard PC monitor the display area is about 10" wide by 7.5" deep, and in hi-res mode most computers display about 640 dots horizontally by 200 vertically. That means that the average PC display gives a horizontal resolution of 64 dpi, and a vertical resolution of less than 30 dpi.

This has a number of obvious consequences. The first is that few computers display square pixels, whereas many printers print square dots. Secondly, if you draw a square on the screen, it isn't really square. It may appear square but that's only because the program that does the drawing is making allowances for the computer's display.

You can prove this easily. Using any language you like, draw a square not by using the language's own graphics commands, but by turning on 50 horizontal pixels for the top and bottom sides, and 50 vertical pixels for the left and right sides. What you get is an upright rectangle.

Similarly, when you come to print out a document, you'll get a hopelessly distorted image if you simply print dot for dot. You have to allow for three possible sources of distortion: the computer's display resolution; the printer's output resolution; and possibility of non-square pixels at both the computer and printer ends.

Once again, we're back to the importance of printer drivers – without the right driver for your software and printer, you'll be very lucky if you get anything like a decent printout.

Font factors

When printing typefaces, slightly different considerations apply.

To begin with, you have to take account of the basic problems outlined above. Most software packages get round the problem by providing two sets of fonts: display fonts and printer fonts.

These are separately (and carefully) designed to minimise the differences that arise from the different resolutions and pixel sizes. However, a further look at the mathematics shows that true WYSIWYG remains virtually impossible.

Suppose you want a 12pt typeface (about a sixth of an inch). If your printer has a resolution of, say, 150 dpi your characters need to be 150/6 or 25 dots high. So far, so good.

Now you need to design your display font. If your display has a vertical resolution of 28 dpi (not uncommon) your characters need to be 28/6 which equals 4.66 pixels. Obviously, you're not allowed to use fractions of pixels, so you need to use five pixels which means your display font is now slightly larger than 12pt. No WYSIWYG.

(One minor bit of unsung genius in the Macintosh is that Apple designed the Mac to display square pixels at 72 dpi – exactly the right resolution for displaying typefaces and another reason why the Mac excels at desktop publishing.)

This difference between display fonts and printer fonts brings up another consideration. A machine like the Amiga comes with a number of display fonts in different sizes; most new printers come with a number of different printer fonts – but the fonts in your computer will rarely, if ever, match the fonts in your printer.

This can lead to endless confusion, but there are ways round the problem. At the simplest level you can simply fudge – use a display font that looks pretty close to one of your printer fonts and make allowances for the differences.

A better solution is offered by printers that accept downloadable fonts. "Downloadable" sim-

☞

Technobabble

A weekly assault on computer jargon

RF ● Composite ● RGB

RF

The simplest form of display interface, RF is the means of putting a computer image onto an ordinary TV. All of the older 8-bit computers (Spectrum, C64, BBC etc) have RF modulators built in. Most versions of the Atari ST also support this (look for M for modulator in the title, so STM and STFM are OK). The Amiga doesn't support RF – you need a separate modulator (which is now being bundled with the A500). The catch is that you get a really grotty picture.

Composite

Composite video is the next step up in display quality. The name derives from the fact that the various bits of the signal – colour, brightness, etc – are all banged up together to form a composite signal. Most monochrome monitors use a composite interface, and some colour monitors (like that for the C64). Display quality is much better than RF, but less than brilliant.

RGB

Derived from the fact that it includes Red, Green and Blue signals, RGB provides much the best picture quality. However, there are now a number of variations in RGB which can be crucial.

Early RGB monitors were digital devices – that is, the shades of colour were increased in fixed (or digital) stages. So they could display only a limited range of colours – perhaps only 16 shades. The BBC Micro, C128 and PC CGA use digital RGB.

A variant on digital RGB is known as RGBi because it incorporates an extra signal governing colour intensity.

The new computers support a much greater range of colours: 512 on an ST, 4096 on an Amiga, and more than 250,000 on a VGA-equipped PC. Digital signals are insufficiently flexible to accomodate this range, so these computers require analog RGB monitors which provide a near-infinite "sliding scale" of colour shades.

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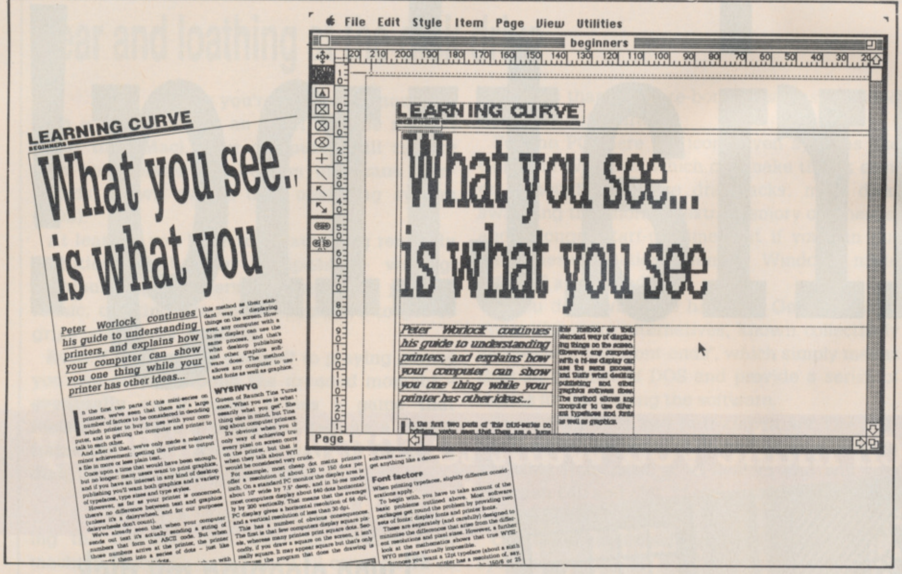

LEARNING CURVE
BEGINNERS

What you see... is what you

Peter Worlock continues his guide to understanding printers, and explains how your computer can show you one thing while your printer has other ideas...

WYSIWYG

Font factors

LEARNING CURVE

What you see... is what you see

Peter Worlock continues his guide to understanding printers, and explains how your computer can show you one thing while your printer has other ideas...

• A screen dump from a Mac compared to the same document printed out (on a laser printer). About as close to WYSIWYG as you can get, but still not perfect

ply means that the printer can hold in its memory the font data which is loaded from the computer. However, the obvious catch is that the printer should have some memory.

Most Star and Epson printers – even relatively cheap dot-matrix models – support this feature, as do most laser printers. Your printer manual should explain whether this feature is supported and how to exploit it; if you're shopping for a printer it's well worth looking for a machine that offers this flexibility.

Downloadable fonts mean that you can design your own printer fonts to match the display fonts of your computer. These can then be sent to the printer and – hey! – you've got near WYSIWYG typefaces.

The best solution is offered by software that will drive your printer in graphics mode. This means you not only get multiple typefaces but also greater flexibility in mixing text and graphics. *Postscript* is the ultimate answer in this area (*Postscript* is like a super printer driver) but there are other "standards" such as the Hewlett-Packard LaserJet. If your printer can emulate a LaserJet, and your software can drive a LaserJet, you can achieve superb quality print with minimal difficulty (*Postscript* is better but horribly expensive).

Any software that bills itself as a desktop publishing package will use graphics drivers to run your printer; all "paint" and "draw" graphics packages will do likewise.

The greatest area of confusion comes with the new generation of word processing software which may employ any of these methods using printer fonts, downloadable fonts or graphics drivers. ●

The DIP switch

No discussion of printers is possible without an exposition on the joys of the DIP switch. DIP stands for Dual In-line Package, but what it means is a switch of miniscule proportions – typically eight of them in a space the size of a thumbnail.

In the best of circumstances this makes them irritatingly small, but fun-loving printer manufacturers usually contrive to put them in the worst of circumstances – buried in the depths of your printer. Only recently have manufacturers started putting dip switches in accessible places.

The switches provide hardware control of a variety of printer features. For example, they usually allow you to switch between Epson and IBM character sets, between international character sets, and to select various aspects of printer performance such as paper lengths of 72 or 66 lines per page.

If your new printer is doing irritating things (like printing hash signs instead of pound signs) you can usually track the problem to incorrect settings of your dip switches.

Any feature selectable by dip switch is usually also selectable by software (via control codes) but dip switches govern the default set up of your printer (how it performs when it's turned on). So use dip switches to set up your most used features like paper length and character set, and use software control for occasional changes.

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Infuriating!

The problems which make you want to throw it all away – and what to do about them

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• Don't throw it all away – maybe your computer just need a little understanding

"I was cleaning my disk when it accidentally went off and killed my files"

Problem: **Disk housekeeping is one of those chores that needs to be done occasionally if you want to make the most of your disk space and avoid cluttering up disks with unwanted files. Perhaps you simply want to delete a range of old files that aren't needed, or you may want to copy files to an archive disk and delete the originals.**

Unfortunately, even experienced users make occasional mistakes, sometimes deleting a file they wanted to keep, or copying one file on top of another thereby overwriting the wrong file.

There are physical accidents too. Disks, especially 5.25" disks, are relatively fragile and if you bend or crush them, or expose them to a magnetic field, you can lose data.

Solution: There are a variety of tools available that can sometimes salvage accidentally deleted files, or recover at least some data from a damaged disk or partially overwritten file (if a file has been completely overwritten there's no hope – it's gone forever).

On the PC, *PC Tools Deluxe* is one of the best tools for recovering deleted files and other damaged data. Others include Mirrorsoft's *File Rescue Plus*, and *The Mace Utilities*.

C64 owners should try ICPUG, whose membership secretary is Jack Cohen, 30 Brancaster Road, Newbury Park, Ilford, Essex IG2 7EP. A useful CP/M users group is at 28 Gordon Mansions, Torrington Place, London WC1E 7HF.

There are commercial disk packages like Datel's Toolkit IV which provide a complete toolbox for manipulating disks. Datel also produces a similar toolbox for the ST, as does Evesham Micros with its *Disector ST* but these really are dangerously powerful for beginners. A better bet for ST beginners would be HiSoft's *Saved!*.

Amiga owners are very badly served in this area and it appears that if you accidentally delete a file on the Amiga you can forget about it. Although there are disk editors around (that let you fiddle with disks at a very low level), like all such toolkits they can do more harm than good in the hands of a novice.

There is hope for accidentally corrupted disks, though – AmigaDOS includes a recovery program called *DiskDoctor* which can usually salvage some of your data from a damaged disk.

Fear and loathing at the disk drive

Problem: Unless you're fortunate enough to own a Macintosh or an Atari ST (the nearest thing to a Mac), your computer will require that you master a collection of arcane commands known as the disk operating system (DOS).

At least, if you hope to do anything remotely ambitious with your computer – writing, manipulating numbers or other data, playing music, creating graphics – you have to get to grips with disks and DOS.

Even if you confine yourself to playing games you can only postpone the dreaded moment – eventually you'll come across a game that insists: "To save a game you require a blank, formatted disk". Now you have to format a disk, and that means using DOS.

Solution: The ways and means of performing the common DOS activities change from machine to machine, but they all come down to four tasks that you should learn:

Format: Preparing a blank disk for use by your computer.

Directory: A way of seeing what files and subdirectories are on a disk (usually takes the form DIR, but also DIRECTORY, CATALOG, CAT or FILES).

Copy: Moving files from disk to disk.

Delete: Removing files from disk (also called "erasing", "scratching" and "killing").

Atari ST owners are lucky in having one of the easiest-to-use operating systems. Gem on the ST uses icons (small pictures) and menus to perform these tasks and even the most nervous user can master them within a few minutes.

Owners of other machines are not so lucky. MS-DOS is notoriously difficult for beginners, and Amiga owners are – if anything – even worse off (see Working out with Workbench). However, there are easier ways of using DOS on most machines than the bare-bones systems provided by the manufacturer.

For the PC there are icon-driven systems like Gem and Windows which can make things easier, although there are drawbacks: more disk-swapping than normal, extra memory overheads, and a longer start-up time. But if you can put with these irritations Gem or Windows make MS-DOS a lot friendlier.

If you don't want the hassle of Gem and Windows, there are alternatives, known collectively as "menu-driven front-ends", which simply means they sit in front of DOS and provide a series of menus for controlling the software.

Two of the best and best-known are The Norton Commander, and PC Tools Deluxe which are available from most good dealers and will cost between £40 and £50. There are also similar public domain programs.

Owners of older machines like the C64 or CP/M systems are not left out but your best bet is to try user groups who maintain libraries of useful public domain software. With a few polite enquiries, you should find a lot of menu-driven DOS shells for your machine.

C64 owners are once more best advised to head for Ilford - the home of the very useful ICPUG. It has a very strong public domain library.

Such DOS managers usually allow you to perform the most-used DOS functions without having to remember the correct syntax or the order in which filenames are given.

Some also provide what's called a "point and shoot" facility, allowing you to easily select files from the disk directory and act on them, perhaps for copying or deleting, or for actually running the chosen program.

For beginners, they can make life a lot simpler and reduce the danger of accidentally damaging your data.

Growth in the spring

Problem: In the first flush of enthusiasm after buying your new computer, all seems well with the world. If you've never owned a machine before this isn't surprising, and if you've just upgraded from an older 8-bit system you'll obviously be delighted with your state-of-the-art technology, with disks instead of tape cassette and enough RAM to make you feel positively agoraphobic after the confines of a 64K computer.

Oddly enough, the problems are worse for owners of machines like the ST and Amiga, and they arise from an old Polish proverb. The fact is, software always demands a little more than your current system can deliver.

On machines like the Spectrum and C64, programmers know what the limitations are, and they work within those limits. That isn't true of the ST and Amiga. Your ST may only have one disk drive, but programmers know you could have three or four. Your Amiga may only have 512K of RAM, but programmers know you could have 8Mb.

Solution: Reach for the chequebook.

Actually, that's only half a solution, since – unless you have unlimited funds – you face an instant dilemma: do you buy an extra disk drive, or more memory?

The answer depends on the computer you own. Many machines are strictly limited in the amount of memory they can actually use: that includes all 8-bit computers like the C64, Spectrum, Amstrad CPC and PCW. Technically, that limit is 64K, although it is possible through various fudges to employ more than that. However, you'll find that most of your memory above 64K gets used as a RAM disk.

The IBM PC and compatibles face the same problem, although on a different scale. Here the limit is 640K, and while many PCs will take up to 1Mb of RAM, the extra is again used as a RAM disk.

So on these machines, it's generally better to buy a second disk drive. Although RAM disks are very useful, a physical drive is more so.

On the ST the solution is less clear and really depends on what you're using your ST for. If it's game-playing, word processing and other straightforward tasks, a second floppy drive (or a hard disk if you can afford it) is a better choice than more RAM.

If, however, you're into memory-intensive work, for example serious graphics applications, you should probably reckon on 1Mb of RAM as the minimum.

On the other hand, Amiga owners are advised to go the other way. Because graphic power is the Amiga's strength, all Amiga software tends to be memory hungry. The problem is compounded by the fact that the Amiga's operating system is a dog, and its disk drives are terribly slow.

Therefore, extra memory is more useful than a second drive. Even though most games software uses the standard 512K, any other applications will work better with 1Mb, and 2Mb or more is quickly becoming desirable.

"My printer makes a hash of it"

Problem: One of the most common – and most irritating – problems you can run into is getting your printer to properly print the *hash* and *pound* characters.

The pound problem arises because of the Americanisation of computers – most computers and printers default to an American character set which includes the $ symbol, but not the £.

Printer manufacturers get around the problem by providing alternative character sets which do include the pound sign – but instead of substituting it for the $, they dropped the hash sign.

This means that as a general rule you can have either the pound sign or the hash, but not both. And while that might sound OK in theory, in practice it doesn't work at all well.

First, Murphy's Law dictates that if you want the pound sign, your printer will produce hashes, and vice versa.

Secondly, there are users who want both. For example, most of us will have at least an occasional need to refer to money in our letters and other documents, but programmers (especially machine-code programmers) also need to use the hash symbol.

Thirdly, a further complication arises when you're using a computer with a keyboard designed for the US market (usually Taiwanese PC-compatibles). Here, you may not even have a pound symbol on the keyboard.

Solution: Solving the problem has a number of aspects.

First, if you have a pound sign on the keyboard, that key will generate the correct code. If you don't, use the hash key instead.

Second, you need to configure your printer so that it is using the British character set. If, when you want a pound sign you get a hash instead, your printer is certainly using a foreign character set. Refer to your printer manual to find out how to select the British character set, but it usually involves the setting of several tiny switches called dip switches.

Fourth, to use the hash character, you need to select a US character set through software. Epson-compatible printers do this by using an escape code sequence:

```
CHR$(27);"R";CHR$(0);
```

and to switch back to British:

```
CHR$(27);"R";CHR$(3);
```

(If your printer is not Epson-compatible, you'll need to check your manual for the equivalent command.)

The easiest way to execute the command depends on your machine. On an older 8-bit computer with Basic built in you can send the control string by LPRINTing the lines exactly as shown above.

On other machines you can do that, but that will involve loading Basic first. A better idea is to create a similar program in machine-code or any compiled language that will produce a standalone program that can be executed directly. Alternatively, you'll probably find that your word processing software will allow you to send printer control codes.

Murds in a woddle?

Problem: Another irritating problem often encountered in printing is getting the wrong amount of text on a page. Either your documents appear with acres of white space at the bottom of each page, or each page becomes slightly misaligned so that the text starts lower and lower on subsequent sheets.

☞

Solution: This is also caused by a combination of software and hardware.

At the printer end, your printer will expect to be using paper of a certain length, depending on the setting of more dip switches or a single switch on the control panel if your printer has one. Usually the choice of paper is between two lengths giving either 66 or 72 lines per page.

This is a particularly irritating measure, since lines per page obviously depends on the size of the type, but it is usually worked out on the basis of six lines per inch. In other words, the printer expects paper to be either 11 or 12 inches long. (More modern printers may be more flexible in allowing a variety of paper sizes, but the principles are the same.)

So your first task is to set the printer to handle the correct size of paper.

Secondly, you need to match up the settings in your software so that, for example, your word processor understands what paper your printer is using. How you do this varies enormously from computer to computer and from program to program, and it usually involves a lot of trial and error, and a great deal of wasted paper.

"How do I find out more?"

Problem: **The whole subject matter of personal computing is constantly changing, with new hardware and software products arriving almost daily, and new technologies moving from the research lab to the High Street store. Just when you master one subject, you're confronted with several more.**

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Working out with Workbench

• Amiga 500: Flawed by AmigaDOS

Problem: **Amiga owners have particular difficulties with their machine's operating system – a big, clumsy and slow collection of commands by the name of AmigaDOS.**

AmigaDOS is split into two parts: the CLI and *Workbench*. The latter is an icon-driven system, supposedly like the Mac and Gem on the ST but in fact not a patch on either. The CLI is a command-driven system, like MS-DOS or CP/M but again not as good.

There are problems with AmigaDOS apart from the lack of speed. For example, all other operating systems make the most-used commands (FORMAT, DIR, ERASE, COPY) memory-resident – in other words, they are always available.

AmigaDOS doesn't. Every time you want to perform one of those commands, the Amiga loads the instructions from disk. So unless you have two disk drives, you end up doing an awful lot of disk-swapping.

Solution: The best answer at the moment is to make use of the Amiga's RAM disk facility to provide the most-used commands in instantly accessible form. Here's how to do it:

1. Make a back-up of your Workbench disk.
2. Using the backup disk, boot your Amiga then enter ED by entering at the CLI "ED S/STARTUP-SEQUENCE"
3. Go to the end of the file and before the last two lines ("LoadWB" and "endcli > nil") add the following:

```
MAKEDIR RAM:C
COPY C RAM:C
ASSIGN C: RAM:C
CD RAM:
```

4. Press ESC then X and press RETURN

This will save the modified startup file to disk.

Now, reboot the Amiga and a DOS file will be automatically created on the RAM disk, and your Amiga knows to look in the RAM DOS for commands like DIR, COPY and so on.

The drawbacks to this solution are that you obviously lose quite a lot of precious memory, so some applications won't work. Also, every time you reboot your Amiga, the RAM disk is wiped so you have to re-load the DOS commands.

The long-awaited *Workbench 1.3* will solve the latter problem, but a memory expansion board is the only solution for the former. However, at least some of the time, this method will make your Amiga quicker and more pleasant to work with.

The Good Life

Here are five utilities that will make life with your computer a good deal easier and less stressful – and even better is the fact that you will usually be able to get them either very cheaply, or completely free through public domain libraries, whatever computer you own. (The first three really need to be used in conjunction with expanded memory.)

1. RAM disk

Some computers – like the Amiga and most MS-DOS machines – have a RAM disk utility built-in to the operating system; others, like the ST, require you to get one from other sources.

A RAM disk works just like a normal disk drive, but much, much faster. The only disadvantage is that if your computer crashes you'll usually lose whatever data you had in the RAM disk at the time. But if you use the RAM disk for your application program and your physical disk for data storage, you've nothing to worry about.

A RAM disk can be especially useful on a single-disk computer when making disk copies since it reduces the number of disk swaps needed.

2. Cache

A disk cache is an area of memory that is set aside as a large buffer between main memory and the disk. The clever part is the cache manager software which sort of sits in the background, like a supervisor, watching how your programs use the disk.

When the supervisor spots data, or program code, that is being regularly moved between memory and the disk, it starts to stuff that data into the fast cache RAM rather than the slow disk. This can make software that relies heavily on disk usage run many times faster than normal.

3. Print spooler

A print spooler is a utility program that resides in the background of your computer's memory. It only comes into action when you try to print a document.

Normally, printing will fully occupy your computer, tying up the machine until the last of the data has been sent to the printer. A spooler takes over management of the printing task, simply sending out data as and when the printer can handle it, but allowing your computer to get on with other tasks.

Spoolers can work from physical disks, but this tends to slow down your machine since it will usually pause in any task while disk access is taking place. But used in conjunction with a RAM disk, a spooler can be fast and highly efficient, getting on with the printing tasks with little or no disruption to you or your computer.

4. Pop-ups

Pop-up programs are small utilities that can be used from within other programs. Under WIMP environments like those on the Macintosh, ST and Amiga, they are usually called desktop accessories, but the principles are the same.

There are many kinds of pop-ups, from name and address files, notepads, clocks and calendars to complete games. Which you'll find the most useful depends on what you use your computer for, but most come in collections of calendar/notepad/calculator anyway.

Think of the number of times when you're using your computer that you need to make a quick calculation, or check a date. A calculator that appears on the screen at the press of a key, or a couple of movements of the mouse, can save you a lot of time otherwise spent doing longhand multiplication and division, or scrabbling in desk drawers looking for your electronic calculator.

5. Macro recorder

Macros are like recordings of keypresses which can then be assigned to a single control key. So, for example, you could record a macro of the commands to back-up all files of a certain type, and assign that macro to CTRL-B.

Now, whenever you type CTRL-B, your computer will execute the necessary string of commands to make the back-up.

Macros have almost limitless uses, and in addition to saving you a lot of typing, they can reduce the need to remember complex DOS commands.

For example, you only need to look up the precise form of a command when you record the macro; after that, you can forget the complexities and just remember the single CTRL-key that executes the command.

PC-compatible owners are the best served when it comes to macro utilities, with commercial products like Borland's *Superkey*, as well as public domain offerings. Such programs have been slow to appear on the ST and Amiga (macros for mouse-recording have appeared on the Macintosh so that isn't the problem) but if you find one, check it out.

It brings a whole new meaning to "two-finger typing".

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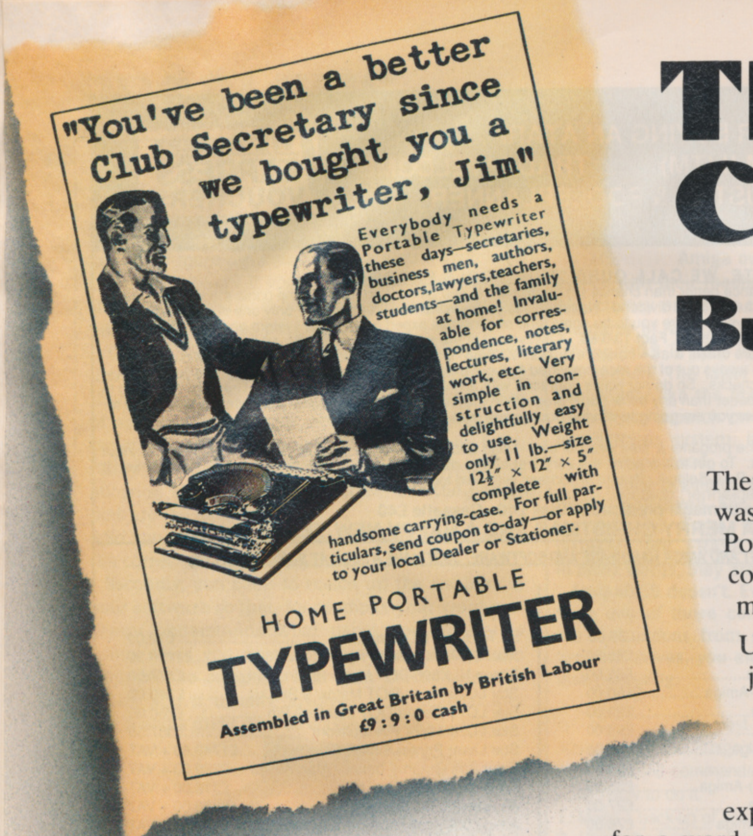

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Until now Jim wouldn't have had much choice. He could do the job himself on his trusty Home Portable - or his word processor - or put the work out to a design studio and have it typeset. And he'd pay the price - with low quality or high costs.

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Electric DISTRIBUTION NEWS

Electric launches revolutionary Desktop Publisher

ELECTRIC DISTRIBUTION have today announced the first professional Desktop Publishing package available in the UK for under £200. The program, developed by Cambridge-based GST Software for Chicago publisher Timeworks Inc. is called Timeworks Desktop Publisher

What the press say

Breakthrough

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TECH TIPS

The place for your questions and suggestions

HELP!

Sound memory

I am considering buying a sound sampler for my ST but first I'd like some advice. A friend told me that digitised sound needs more memory than a 520ST has – is this true? And which make of sampler would you recommend? Also, how can I use the sampled sounds in my own programs.

Andy Miles, Durham

- Samplers, or digitisers, work by converting an analog audio signal into a digital form that the computer can manipulate. The audio signal can come from any source – microphone, stereo, TV set – provided it can be plugged into the digitiser itself. This latter is a small box of tricks that usually fits into your ST's cartridge slot.

The hardware is simply a piece of electronics that converts analog to digital – hence the name ADC, or Analog to Digital Converter (jargon can be easy sometimes).

The clever bit is the software which uses the digitised signals to drive your ST's sound chip, or a MIDI device. Some packages offer a more or less straight reproduction of the sound, others allow you to fool around with it – speeding up or slowing down the replay rate, playing the sample backwards, and so on.

More importantly, it's best to go for a sampler that offers a range of sampling rates, measured in kilohertz (thousands of cycles/samples per second). CD-quality sampling is around 44kHz so any sampler offering samples of around 40kHz is going to be pretty good.

The catch is that sampled sound eats up memory. Your friend is wrong – the 520ST can happily accommodate sound samples, but the question is how much?

Most digitisers grab 8-bit samples: at 40kHz you're grabbing 40,000 bytes per second, so at that rate clearly you're going to run out of memory on a 520ST at about 12 seconds. But similarly, if you halve the sampling rate you double the length of the sample so at 8kHz you'll get a bit more than a minute's worth on your 520ST.

Using samples in your own programs can be quite simple since most best-selling ST packages provide routines you can adapt for your own purposes for Basic, C and assembly language.

As to which to buy, that's really a question of budget. For £50 you can get *Pro Sound Designer* from Power Computing/Eidersoft (0234-273000), but if you can stretch to £70 you could buy the slightly-better *IS Digitiser* from Innovated Software (0903 700804).

Win a sub!

We want to hear your problems, but we also want helpful hints and tips. As well as the eternal glory of helping out your fellow sufferers, you could even scoop the weekly best-tip prize of a free 26-issue subscription to this magazine!

And remember, there's no waiting around for monthly publication dates. The best tips, and solutions to your problems will be in print before you can say Alan Sugar.

So whether it's help offered or needed, write to:

Tech Tips, New Computer Express,
4 Queen Street,
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HELP!

File upgrade

I have just upgraded from an Amstrad PCW to a PC1640. Unfortunately, after getting rid of the PCW I realised I would need to transfer a lot of data from my old 3" disks to the PC. I certainly don't want to key it all in again from printouts.

Is it possible to add a 3" drive to the PC1640, and what other hardware/software would I need to accomplish the transfer?

Philip Johnson, Esher, Surrey

- It is possible to connect a 3" drive to your PC, but getting MS-DOS to recognise the drive is a different matter. Under the circumstances I wouldn't recommend it anyway – you'll be spending money on a completely non-standard drive that ultimately will be more trouble than it's worth.

An alternative would be to borrow a PCW, hook it up to your PC via an RS232 cable link, and transfer your data that way. But that's a lot of hassle since you'd have to find or make a suitable cable.

So ... you could give AL Downloading Services a ring on 01-994 4959. It undertakes to transfer data between just about all disk formats including PCW to PC. Unless you've got dozens of disks this will work out cheaper than buying any kind of add-on hardware for your PC. It will also be a lot easier.

TIP

Multi-file movement

If you're tired of spending half your waking hours laboriously shifting those ST files about one by one, there is a solution. Simply select the first file you want to move as normal, then hold down the SHIFT key and click on the others. Hey presto! You can now move up to three million files all in one go.

Stephen Daniels, Anstey, Leicestershire

HELP!

3D binge

I am interested in the subject of three-dimensional modelling and ray-tracing and would like to buy a computer system capable of exploring these areas. Can you recommend a suitable system and software for my purposes? Money is no object.

AD McKay, Newcastle upon Tyne

- Money is no object?!?

Have you any idea what effect a phrase like that can have in a society like ours? Consider yourself lucky we haven't printed your full address.

You might consider a Cray, or a Sun or Apollo workstation – although even if money is no object, the size of your house might become a factor. A better bet might be a Mac II with 24-bit colour video board, 19" monitor and 340Mb hard disk (a very nice system) which should leave you change out of £20,000.

Or are we really talking a little less money than that? What about a 386 PC with Transputer add-on processor – with trimmings about £12,500?

Or do you really mean that a hundred quid here or there isn't important? In which case you're probably looking at an Amiga. Although the ST is capable of 3D modelling it has too limited a colour range to be really good, whereas the Amiga's 4096 shades make a world of difference in ray-tracing.

If your unlimited budget will stretch far enough, you'd be well-advised to go for an Amiga 2000 rather than the 500, largely because you'll need expanded memory – as much as you can get – and the 2000 is a more expandable system.

There are a number of suitable soft-

☞

TIP Better batching – take 2...

Oops! Eagle-eyed readers will no doubt have noticed **our ever-so-slight bungle last week whereby the Better Batching** tip was rendered almost totally unintelligible. Here's what it *should* have looked like...

Simon Williams' tip in *PC Update* (*Express* issue 5) is a good idea, but I think the way he proposes is very time-consuming. It can also only work, as he says, if your files fit onto one floppy disk.

I have a 1512SD to which I have added an external 3.5" floppy drive that I used to use with my Spectrum, and I always like to keep two copies of everything. The batch file I use is similar but makes use of the XCOPY command, which I find is more suited to the task if used in conjunction with the /m and /w switches.

I have included a demo batch file that can be used for hard drive users to show how it is done:

```
ECHO OFF
CLS.
(Users with DOS 3.30 can replace these lines with: ©ECHO
OFF which I find easier)
ECHO.
ECHO Backing up Documents, Texts and Letters.
ECHO Please have disks ready.

:DOCS
XCOPY C:\WP\*.DOC A: /W/M/V
IF ERRORLEVEL 4 GOTO DOCS1
(Use of this ERRORLEVEL can enable you to switch disks if
the one in drive A: becomes full otherwise control passes to
the next command)

:TXTS.
XCOPY C:\WP\*.TXT A: /W/M/V
IF ERRORLEVEL 4 GOTO TXTS1

:LETS
XCOPY C:\W\P*.LET A: /W/M/V
IF ERRORLEVEL 4 GOTO LETS1
GOTO END
(NOTE: Use of the /W switch to pause to enable you to insert
disks as required. Also the /M switch so as only to back up
files that have been added or altered since the last backup,
it also resets the archive flag on the original so that if the
disk in A: becomes full then when the batch file loops back it
will start with the last file that it could not fit onto the last
floppy. The /V switch checks that the copy is the same as
the original.)

:DOCS1
ECHO.
ECHO PLEASE INSERT ANOTHER DISK INTO DRIVE A:
ECHO.
GOTO DOCS

:TXTS1
ECHO.
ECHO PLEASE INSERT ANOTHER DISK INTO DRIVE A:
ECHO.
GOTO TXTS

:LETS1
ECHO.
ECHO PLEASE INSERT ANOTHER DISK INTO DRIVE A:
ECHO.
GOTO LETS

:END
ECHO.
ECHO ALL FILES BACKED UP OKAY
```

R.J. Waller, London

ware packages – *Sculpt 3D* (soon to be upgraded) and *Animate 3D* (for animating *Sculpt 3D* images), and *Videoscape 3D* are among the best and best-known.

And since money is no object my fee for this consultation will be 10 per cent of the system cost (£150 in used tenners to the usual address will suffice).

TIP

Open windows

Newcomers to STs might be unaware of an undocumented feature which can greatly speed up file location. If you've got lots of disks and you want a directory of each as you put it in, instead of clicking on the drive icon each time to open up a directory window, simple press ESC. The existing window will update with the new disk's directory.

Claire Bentley, Worksop, Notts

HELP!

Spotting cards

One problem with a lot of PC software – especially public domain programs – is that they will not work properly with alternative display adaptors, especially Hercules cards. I have written a number of programs and I would like them to be able to work with any adaptor but I am having difficulty in writing a routine that will identify the display card in a PC.

Can you tell me how to go about this, if possible including a routine to accomplish the task?

Stephen Allington, Derby

- It is possible to have your program identify the different PC display adaptors but it is not as easy as you might think (as Stephen has discovered).

A slightly tacky and unprofessional solution, of course, would be to ask the user of your software – something like:

```
INPUT "What kind of graphics
  adaptor are you using";a$
```

and then set up your program accordingly. However, a large number of users haven't the faintest idea what adaptor is fitted to their PC.

There is no single register or location either within the PC or the adaptor itself that identifies the video hardware, so to do it in code you have to carry out a range of checks, some of which will identify one particular kind of adaptor, some of which merely eliminate several of the possibilities.

Such a routine is much too long to be printed here. However, everything you need to know is contained within a single reference source: The Programmer's Guide to PC and PS/2 Video Systems.

Written by Richard Wilton and published by the Microsoft Press, this excellent guide will cost you £22.95. In addition to providing hard technical details about the various video adaptors, and about the display routines built in to MS-DOS, Wilton's book also provides many algorithms and coding examples of graphics routines, including lines, circles, fills and user-defined graphics. Highly recommended.

HELP! Illiterate PC

I have discovered by accident that disks formatted on an Amstrad PC or an Amstrad PPC can be read and written to by an ST in GEM as though they were formatted in GEM using either 3.5" or 5.25" drives.

But a disk formatted on an ST in GEM cannot be read or written to by a PC. I just get a "General Failure Error" message. I have tried formatting in different sizes (40 and 80 tracks) on the ST but I just get the same result.

Can you help me by saying why the ST can read and write PC disks but not the other way round? I would like to be able to transfer text files to and from both machines – how can I achieve this?

Karl McAuley, Sheffield

- The key problem is that the ST drive is faster than those on PCs which makes the disks mutually incompatible. Although you say you can read a PC disk in your ST you'll probably find that eventually this breaks down as the different speed puts the disk and drive out of synch.

However, the solution to your problem is a simple POKE to the ST's drive controller. Unfortunately, I've forgotten what the POKE is and I can't trace any of the articles which gave the original information.

So, if any informed ST owners are reading this, perhaps one of them will have mercy on me and Mr McAuley and put us out of our misery.

• Amstrad's PPC. Can it swap disks with an ST?

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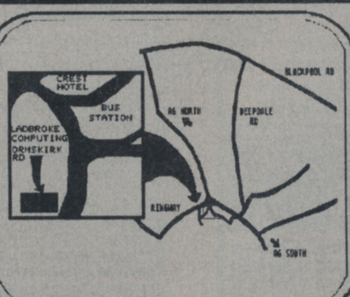

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CLUB ST

Thix ix sillx

Pick up almost any computer magazine and you will find a story or two about Unix. What is it that has obsessed people with this operating system? It's slow, dammit! Not to mention messy, space wasting and very unfriendly. Just forget about it. You really don't want it.

Obviously there are people – weirdos – interested in the system, as publisher Prentice-Hall has unveiled ST Minix, a unique software rewrite of Unix. Whatever next? Unix release 5 on the ZX81? Minix is embarrassingly close to V7 Unix: it shares the same hierarchical file system, supports full multitasking, has the same style CLI, uses identical system calls – there are no end of similarities. Unlike Unix, however, Minix comes complete with all the source code, requires far less memory to run and doesn't require silly amounts of storage space. In short, you can use it on a 520 with single sided drive.

A Kernighan and Ritchie compatible C compiler, full screen editor, over 60 utilities and 100 library procedures are provided. A few of the Minix commands include ar, cc, cmp, cp, dd, df, grep, gres, lpr, mv, od, dtty, du, tar, tee...

Aaargh! Doesn't it make you want to vomit? You can't seriously want to use a system that uses commands with acronyms that make no sense whatsoever?

There is a perfectly logical reason for Minix, despite my rantings and ravings. When AT&T first licensed Unix, it was widely studied in operating systems courses at universities. With the advent of Unix version 7, AT&T decided to pull the plug on education. No more teaching of Unix in the classroom – in particular no more hacking at the source code. Since that time professors and students haven't had any decent OS source to tinker with. Hence the arrival of Minix, which is designed for people, students mainly, who are interested in legally obtaining and studying the source code of a Unix-like operating system. So there you go.

MINIX
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Johan Stevenson • Jost Müller
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If you're interested you can get the package from **Department 35, Prentice-Hall, 66 Wood Lane End, Hemel Hempstead, Herts, HP2 4RG** (0442-231555). It costs £10.70 for the manual and £98.44 for the disks – all nine of them!

Snippets

Genlock for the ST: Capital Computers of Tollcross, Edinburgh, has a genlock device (something for mixing computer images with TV or video images) that will operate on any ST.

Outwardly, the unit consists of two BNC sockets: video in and video out. There's also a switch at the back to toggle between normal and genlock mode. It costs £250 for a non-broadcast quality device or around £900 for the professional system. Details from Capital on 031-228 4410.

Tweety Board: Practical Solutions in the States recently demonstrated a board which, when fitted, gives any ST stereo sound output. The solderless contraption, which has three phono jacks, fits to the RS232 port. Either two or three speakers can be attached. Two for stereo; three for surround sound.

The gadget costs $49.95 and is available from Practical on 010 1 602 8849612. Frankly, the DIY method described in the January issue of *ST/Amiga Format* seems a better deal.

New Wordup

HB Marketing, from West Drayton in Middlesex, is now distributing Neocept's Wordup Version 1.3 word processor. Briefly, Wordup is GDOS-based which means it can cope with multiple fonts, sizes and styles. Proportional, monospaced, bold, light, italics, outline, subscript and superscript text styles are possible.

GEM IMG graphics can be imported, resized and text made to automatically flow round the images. As GDOS printer fonts are supplied, printed output is very impressive (although very slow).

On to the new bits. Wordup 1.3 is faster, the graphics handling is better and the manual has increased three-fold. Three disks are supplied which contain printer drivers for numerous makes of printer, monochrome and colour resolution fonts, and various other bits and pieces.

Incredibly, all the files are archived (compressed) and it takes about 30 minutes to install the system for the first time. Wordup costs £59.95. Further details from HBM on 0895 444433.

Grail Quest

Here you go, the solution to Microdeal's menu-based adventure *Grail Quest*.

The first screen houses a hidden bag of gold. It's in the bushes, but don"t pick it up yet. Instead, confront the dragon on the next screen with magic. Spare its life. Go to the castle and kill the goblin at the entrance. Sleep on the street for three nights when you're inside the castle. On the third night a man will crawl up to you; give him some of the cure found in the bottle. The bottle, incidentally, is in the window at the top left corner of the screen. Go back to the forest and give Billot the gold from the bush. Return to the castle. Leave Billot at the inn while you sleep in the street. Return to the forest. Follow the hooded man to his house and cure his mother. Return to the castle and go to the upper level. Use magic on the bandit, but spare his life. You'll be taken to the world of essences where you must find the Grail. In the forest you'll see a man crawling on the ground. Cure him then go west to a pit in the ground. Enter pit and approach the light. And that's it.

Richard Monteiro

Next week Express has a new ST expert. You can get in touch by writing with suggestions or tips to Club ST, c/o NCE, 4 Queen ST, Bath, BA1 1EJ.

PC UPDATE

Batch time

There are all sorts of interesting things you can do with no more than the DOS commands supplied with your PC. All you need to use the following is DOS with a version number above 3.0 and an editor to create the following batch and data files.

The technique involves 'piping', that is directing output from one command to something other than its default device. Perhaps the simplest example is something like:

```
dir > dir.txt
```

This line will call DOS's directory command, but instead of displaying it on screen, the '>' piping directive will divert it into a file called dir.txt. If you want to you can check that the directory display is really there with the command:

```
type dir.txt
```

You can pipe input to a command as well as output from it. This ability can be used to automate commands which would normally demand input from the keyboard. Create a small data file called CR.DAT by typing:

```
copy con CR.DAT [Return]
[Return]
[F6][Return]
```

The key names in square brackets indicate single key presses – don't be tempted to type [RETURN]! The file CR.DAT now contains a single carriage return character and can be used to replace a keypress in the date command, for instance, with the command:

```
date < CR.DAT
```

Input for the date command is taken from CR.DAT, which is the same as pressing RETURN to override the input of a new date.

Now for the really interesting bit. Use a text editor to create the following batch file – call it TIMER.BAT:

```
echo off
echo Start time:
time < cr.dat | find "C"
%1 %2 %3 %4 %5
echo Finish time:
time < cr.dat | find "C"
```

As the filename suggests, this batch file is in fact a timer, showing the start and finish times for just about any command you want to tack onto the end of it as a parameter. The two lines beginning time use the redirection of input from the CR.DAT file, and the find command on the end effectively throws away the 'Enter new time' requester completely. The line in the middle, composed entirely of % parameters, allows you to enter up to five commands to be timed. Try:

```
timer dir
```

and the program will print start and end times for a DIR command. The batch file could be very handy for running program benchmarks among other things. The technique was taken from a very interesting MSDOS book called *Supercharging MS-DOS* by Van Wolverton, published by the Microsoft Press, which should know what it's taking about, at £17.95. The ISBN number is 0-914845-95-0.

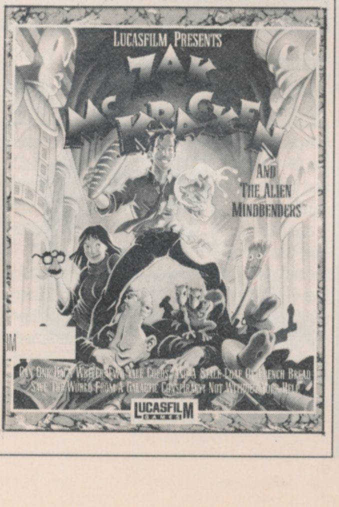
Silly games time

There have been all too few silly games around recently. Since the sad demise of *Monty Mole* and Douglas Adams' recent interest in things terrestrial the computer world has become a straighter place. Lucasfilms, though, seems determined to add their own bit of lunacy to the world of PC games with *Zak McKracken.*

This is a point and shoot adventure (that is, you don't have to type boring commands like "Get loaf": you can point to 'get loaf' on a menu instead). The basic storyline is that silly aliens have taken over the world and are trying to make the entire population as silly as them. To give you a feel for the game you're supplied with a complete Groucho Marx lookalike kit, replete with bushy eyebrows.

As well as the disks (both 5.25" and 3.5" formats, which is a plus point for Lucasfilms) you get an instruction sheet, set of 'bonus checks' (that's cheques, if you think in English) a decoder card and a copy of *The National Inquisitor*, the rag that Zak writes for. This is filled with news items which the *Sunday Sport* would be proud of. Indeed some of them are very reminiscent of *Sport* headlines. How about 'Alien Amusement Park Found on Mars' or 'Two-Headed Squirrel Attacks Two Campers At Once!' or 'I Turned a Microbus Into A Space Shuttle'. *Zak McKracken* is from Mediagenic and costs £19.99.

Simon Williams



Bit for stats

So. Farewell then, 1988. Now you've seen the New Year in and got your head back together, what better to set you off in 1989 than a quick thought for the statisticians of the world. What a fun life it is with modern statistics. The thrill of a Chi square test, the breathless hush as you come to the conclusion of a Kolmorov Goodness of Fit test. If you've even the slightest idea what I'm on about, then you'll probably be interested in a clever little package that passed through my hands recently.

Called Jelcs Stats, it comes from JEL Computing and claims to take most of the hard work out of analysing collections of data. Having played with it, but not used it in anger yet, it seems there's fair grounding to its claim. The package will take sets of data and perform all the 'regular' statistical calculations on it, as well as performing many non-parametric tests. These are the ones with the crazy names like the Mann-Whitney U test and the Spearman rank correlation coefficient. These are the kind of tests you will find very useful, if you have a use for them. In other words, this is a package for specialists, but those specialists are likely to find it indispensible.

Even though it probably has a small potential audience, the package is well designed, fully menu driven and includes an excellent graphics output option. It will draw line, bar and pie charts and dump them to any Epson-compatible printer. The package is well worth a look if even part of your job is analysing data. Further details and a spec sheet can be had by calling James Latty on 0472 693742.

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AMIGA BLIT

Amiga hits the road

With the recent announcement from Atari of a forthcoming ST laptop machine, it seemed inevitable that eventually Commodore would follow suit. The first Amiga portable has finally arrived from...

Wait a minute – this isn't a Commodore machine!

It's true, the first Amiga portable has arrived, yet the machine is not a Commodore computer. It is produced by an American company called Micro Momentum. Is the Amiga set to spawn third party clones a la IBM PC?

The portable Amiga, called the 'Journey Man', comes complete with two 3.5" internal disk drives, 1 MegaByte of RAM as standard and an internal 7" amber monitor. Space is also available for a 5.25" hard disk or floppy and all the Amiga's I/O ports are included. Wow, that's going to be one heavy portable!

Whether you'll be able to buy the machine in this country is unknown – it seems unlikely as Commodore is rumoured to have plans to produce its own portable.

Traders Delight

This week's tips are decidely above board. No underhanded cheat modes, just good old fashion strategy, I'm afraid.

The game subjected to the acid test (or should that be Aciiieed?) this week is Firebird's space trading classic Elite.

Below is more of a reference chart for use when you are deciding where to buy and sell goods on the universal stock market.

ITEM	BUY AT	SELL TO
Food	Poor Agricultural	Rich Industrial
Textiles	Rich Agricultural	Poor Industrial
Radioactives	*	
Slaves	Rich Agricultural	Any Industrial
Liquor/Wines	Any Agricultural	Rich Industrial
Luxuries	Rich Industrial	Any Agricultural
Narcotics	Corporate and Democracies	Arnarchic Worlds
Computers	Rich Industrial	Rich Agricultural
Machinery	Any Industrial	Rich Agricultural
Alloys	*	
Firearms	Poor Anarchic Worlds	Rich Agricultural
Furs	Any Agricultural	Any Industrial
Minerals	Any Agricultural	Average Industrial
Gold	*	
Platinum	*	
Gem-Stones	*	
Alien Items	Collect Thargoids	Any Agricultural
Medicines	Rich Industrial	Poor Agricultural

**** Not worth dealing with***

Amiga takes on the Mac

At last Commodore seems to have finally figured out which markets are best suited to the Amiga. We've already seen the machine promoted heavily as a Desktop Video Workstation, a policy that has undoubtedly payed dividends, and the company seem set to unleash the Amiga on the next big vertical market, that of Desktop Publishing.

• Apple's Macintosh: While not as powerful as the Amiga, just look at all that lovely software!

But what are the Amiga's chances of repeating the success the machine is now enjoying within the video industry? Unfortunately, the answer is not that clean cut. While some industry speculators see the Amiga as a definite contender, others feel the machine delivers too little too late.

Message Port

If you have any comments about any issues raised within this column or the Amiga scene in general, why not drop me a line? Equally, if you have any tips that will help other readers get the most from their Amigas then I'd love to hear from you. Write to: AMIGA BLIT, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

The current market leader where Desktop publishing is concerned is the Apple Mac, with the PC compatibles running a close second. So what can the Mac do that the Amiga can't do better?

To this question, I'd love to say "nothing" but unfortunately, try as I might, there is just no escaping the fact that DTP software on the Amiga is not a patch on that on offer on the Mac. If you take one look at packages such as Quark *XPress* (as used to lay out *Express* and all of Future's other publications) or *PageMaker II*, I'm sure that you too would grudgingly come to the same conclusion.

What is really needed if the Amiga is to make it within the Desktop publishing market is a program that plays to the Amiga's strengths. The Amiga has colour, it has a very powerful blitter that can even give the Archimedes a run for its money, so why aren't these seemingly major assets being used?

The only package available for the Amiga that can even start tapping the machine's superior capabilities is Gold Disk's *Professional Page.* While *Page* undoubtedly makes full use of the Amiga's colour capabilites, the program is notoriously slow.

A plea to software houses: drop Intuition, drop Exec and start hitting the hardware directly. It's all very nice being fancy with your custom requesters and multi-colour, animated gadgets, but what DTP applications really require is speed! You have at your fingertips one of the most powerful graphic engines on the market which, if programmed correctly, could leave even the powerful Macintosh II for dead.

Deluxe bargains

Thinking about buying yourself a decent paint package? If the answer is yes then there is no better time than now to dig deep and fork out the readies, as Electronic Arts has just announced a very special bundle on the Amiga *Deluxe* series of products.

The bundling includes the most popular paint package on the Amiga, *Deluxe Paint II* as well as the companion product, *Deluxe Print,* all for the same price as *Deluxe Paint II* if bought separately.

Deluxe Print allows you to design signs, banners, letter heads, advertisements and a whole host of other items of stationery. Any art produced using *Deluxe Paint* to can automatically pulled into your *Deluxe Print* productions. Further details are available from Electronic Arts on 0753 46465.

Jason Holborn

SPEX

Magic magnetic mag

Here at SPEX, independent publications are as welcome as commercial ones, although it's unfortunate that their bribes are rarely as big.

A mag which is of high enough quality to be mentioned for free, though, is *Outlet* from Chezron software. It's a Plus D, Disciple, Opus, Microdrive and tape-based read which picked up a passing mention last week after a reader wholeheartedly recommended it.

If you're one of those people who think too much coverage is given to shoot-the-green-blobs type software, i.e. games, then this could well interest you, as the majority of its content is devoted to the more serious side of the Spectrum.

Each issue runs to about 250K of programs, letters, articles tutorial sections and utilities, all accessed from a menu on the disk versions or loading serially on tape.

To be entirely successful a tape or disk mag really has to make good use of its format to compensate for the inconvenience of loading problems and not being able to read it in the bath, for example. *Outlet* does that admirably, with a variety of snazzy effects and attractive screens. The programs are of a high standard – not up to commercial efforts, but easily better than the loads of listings which littered the computer press a few years ago. They range from useful utilities you won't find anywhere else, to graphical demos and simple games. Sandwiched in between the programs are fairly interesting articles, a letters page, notice board and news section.

The whole caboodle has a clubby atmosphere, and it manages to come across seriously without being too boring. In short, I was impressed. Coming from a cynical games freak who wouldn't know an algorithm if it performed an erotic dance for him, that's a huge compliment.

I'd particularly recommend it to Plus D, Microdrive, Opus Discovery and Disciple owners, who get little else for their systems these days. Apart from that, anyone into their Speccy's serious side will love it.

If you're still not entirely convinced, Chezron supplies a free sampler to anyone who sends it a blank microdrive or disk, a service which isn't actually available at the time of writing, though.

As a special introductory offer an issue of *Outlet* will set you back £2.00, with Chezron providing the disk or microdrive cartridges. All tape versions are £2.75. (Strange as it may seem, *Outlet* is not available on +3 disk yet, as there have been numerous problems getting disk access in 48K Basic.)

The address I suggest you write to immediately is 605 Loughborough Road, Birstall, Leicester LE4 4NJ.

Free publicity

Now then, I don't know about you, but I'm a sucker for any magazine which sports a FREE gift on its cover. This fact no doubt explains the huge collection of computer mags strewn about my bedroom.

The three Spectrum-specific titles have cottoned onto the old 'FREE' gift racket in a big way. Hardly an issue appears on the shelves without a tape secured to the front. A ruthless cassette war has developed in recent months, with each mag attempting to outdo its rivals with increasing numbers of programs squeezed onto their tapes. *Your Sinclair* even chucked *two* cassettes on its cover. Whatever next? "Free with these five tapes a whole magazine!!!" Still, I'm not one to look a gift cassette in the mouth – it's good to see them offering such excellent value for money.

Dogged play

Rex, from Martech, is an addictive little shoot-em-up I've been playing for dangerously long periods of time this week. What's that? You have too? Cor, what a coincidence! Pretty convenient, too, as it seems to be the only thing I've got any tips for.

Without further ado, the password for Level 2 is 8889879821969668 (probably). Don't you just hate pedantic programmers? I don't think there was much chance of you guessing that one!

Speccie sell-out

In past columns my criticism of Amstrad has been downright mean and nasty. My most venomous attacks were directed at the pricing of our computer. To thrifty old me, £140 and £199 seem a lot to pay for what is basically an eight year-old machine.

My opinion doesn't count for much, apparently. If Spectrum sales this Christmas are anything to go by, Uncle Al'Sugar was spot on. No exact figures have reached me yet, but initial impressions are very encouraging. The local Dixons sold out of both +2s and +3s, surely a good sign?

Hopefully, the +3 sold in sufficient quantities to coax some quality software written specifically for the machine, rather than just more cassette versions ported onto disk.

As any regular reader will have guessed by now, I'm a confirmed Spectrum freak **(Didn't know about the Spectrum bit – Ed)*****, but even one as loyal as me was more than a little surprised at the Speccy's good showing this year. Naturally, I think our machine is the finest in the world, but when in a screen-to-screen contest with an ST, Amiga, or C64 for that matter, it does tend to live up to its 'humble' tag. 16-bit entertainment software is just so much more appealing and attention-grabbing than 8-bit and, in particular, Spectrum software.***

Who can solemnly swear they didn't drool enviously on seeing **Dungeon Master** ***or*** **Starglider II*****? With Spectrum software, you have to wait to be grabbed. Of course, graphics and sound don't necessarily make for a good game, but if little Johnnie sees the latest coin-op conversion on the Amiga and the Spectrum, you can bet which one he'll lead Daddy towards. And it's for that reason the Speccy's enduring popularity amazes me. It bodes well for MGT's plans. And my job prospects.***

Adventurers Club

Henry Mueller of the Adventurers Club has been in contact. He was encouraged by my mention of adventures in issue 6, and is currently campaigning for a regular adventure column in this esteemed organ. The Adventurers Club is not Spectrum specific, but over 40 per cent of its members are Spectrum owning and the bi-monthly magazine I saw had a large number of Speccy reviews, solutions and tips.

The club offers an extensive postal and telephone helpline and boasts some rather famous contributors – like Pete Austin of Level 9 and well-liked adventuring personage Mike Gerrard. I was pretty impressed. Write to 64c Menelik Road, London NW2 3RH for membership details.

Robin Alway

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SECTOR 64 SECTOR

The C64 Million Dollar Question

We all know how popular the C64 is, but did you know that the machine has worldwide sales of just over 9.5 million units?

And taking into account the (still) phenomenal success of the C64 this Christmas, that figure may well surge to over 10 million!

The old C64's come a long way after its first humble appearance back in 1982. Who'd have thought then that it would become the world's most popular micro-computer?

Demos

These days, many 64 demo writers are trying to push the machine to its limits by using techniques that originated on the Amiga. In the UK demo writers are tackling full screen animation from crunched data in memory, as with animated demos on the Amiga. Demo coders on the 64 in this country are manipulating graphics showing off the 64 in a way that could easily look cool on TV.

These demos show that the 64 can have as many as 32 sprites flying around the screen in all directions while keeping the side borders open at all times – at the same time having 16 sprites on one line in the bottom borders.

Numa's top three

Armalyte ▪ Thalamus ▪ £9.99cs, £12.99dk
A superlative shoot-em-up which could easily be translated into a coin-op, and which is the best of the genre on any micro to date. An instant classic.

The Last Ninja 2 ▪ System 3 ▪ £12.99cs, £14.99dk
Despite the dodgy marketing, rubber Shiraken Star and cotton Ninja Mask – leave me out – this was a great blend of martial arts kick-em-to-death-em-up and arcade adventure.

Hawkeye ▪ Thalamus ▪ £9.99cs, £12.99dk
The latest addition to the myriad of already-available platform-games, but bringing a breath of fresh air to the whole scene. The first game from a bunch of demo creators calling themselves The Boys Without Brains... oh well if the name fits, use it.

What ever happened to...

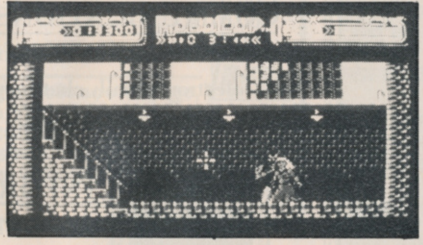
Rob Hubbard – The C64 music maestro who left the UK for the sunnier climes of California, USA last year – and was never heard of again.

Katakis by Rainbow Arts via US Gold – the *R-Type*-clone that never was, maybe because it was superior to Activision's official *R-Type* conversion on the C64? We'll never really know.

Commodore SX-64 – Commodore's awful attempt at portable C64 computing.

Commodore 128D – Commodore's equally dire attempt at C64 professional desktop computing.

The Perfect Match – Commodore's attempt at sponsoring a successful football team. It all started to go wrong when it chose Chelsea as the team to sponsor...



• Robocop: See *Cheat*

Cheats

Thanks to Robert Troughton from West Yorkshire for this nice little poke to make *Robocop* a lot more powerful than he already is. Just load the game as normal, and once on the title page reset the machine and type:

POKE 4418,6 (for unlimited energy)
SYS 32768 (to restart the game)

Here's another poke from the cheat machine himself (Robert Troughton) for the simple but explosive game *Better Dead than Alien*. Load the game from cassette, reset, and type:

POKE 40319,189
POKE 40345,189 (unlimited energy)
SYS 16384 (to restart the game)

Listing

You may not have an Amiga with a built-in clock, but you do have fingers – so you can type in this digital clock program, which will display the time at the top of the screen.

The clock can be turned on and off simply by pressing F5 and F7. When you turn the clock off it will no longer update onto the screen. The clock will only carry on working if you have not reset the machine. If you *have* reset the computer then typing "SYS 49152" will start the clock from where it left off.

Ian, Mic + Rik Numa

Clock listing

```
1    B=49152:RESTORE
2    FORL=0TO256:READA:POKEB+L,A:NEXTL
10   DATA 120,169,192,141,21,3,169,13
20   DATA 141,20,3,88,96,32,204,192,76,178
30   DATA 192,162,0,189,0,193,157,0,4
40   DATA 232,224,8,208,245,162,0,169,160
50   DATA 157,8,4,232,224,32,208,246,169
60   DATA 19,173,45,192,201,50,240,4,238
70   DATA 45,192,96,169,0,141,45,192,173
80   DATA 7,193,201,185,240,4,238,7,193
90   DATA 96,169,176,141,7,193,173,6,193
100  DATA 201,181,240,4,238,6,193,96,169
110  DATA 176,141,6,193,173,4,193,201,185
120  DATA 240,4,238,4,193,96,169,176,141
130  DATA 4,193,173,3,193,201,181,240,4
140  DATA 238,3,193,96,169,176,141,3,193
150  DATA 173,1,193,201,185,240,4,238,1
160  DATA 193,96,169,176,141,1,193,173,0
170  DATA 193,201,180,240,4,238,0,193,96
180  DATA 169,176,141,0,193,169,177,141,1
190  DATA 193,169,176,141,3,193,141,4,193
200  DATA 141,6,193,141,7,193,96,173,17
210  DATA 208,9,11,141,17,208,169,1,141
220  DATA 25,208,169,127,141,13,220,169,129
230  DATA 141,26,208,76,49,234,32,225,192
240  DATA 173,0,193,201,178,208,10,173,1
250  DATA 193,201,181,208,3,76,153,192,96
260  DATA 165,197,201,6,208,8,169,189,141
270  DATA 24,192,141,36,192,201,3,208,8
280  DATA 169,157,141,24,192,141,36,192,32
290  DATA 19,192,96,0,176,177,186,176,180
300  DATA 186,181,182
310  POKE49408,176 :REM ( TIME 00) HOURS
311  POKE49409,177 :REM ( TIME 01) HOURS
312  POKE49411,176 :REM ( TIME 00) MINS
313  POKE49412,176 :REM ( TIME 00) MINS
314  POKE49414,176 :REM ( TIME 00) SECS
315  POKE49415,176 :REM ( TIME 00) SECS
316  SYS49152
```

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Back trouble

You know how it is with most adventures: you get along fine for a while, and then all of a sudden you come up against some seemingly impossible puzzle and you're stuck fast. (Remember that blasted Babel fish conundrum in *Hitchhikers*?) So all you brave and heroic adventurers out there having trouble with Level 9's *Ingrid's Back* (terrible thing, backache) or *Lancelot* will, I'm sure, welcome the free cluesheets now available for these two mind-benders. Simply fill in the coupon supplied with the respective game and soon you'll be back on the true path. The only thing is, I always feel a little guilty if I use such 'cheats'. On the other hand, if I didn't I doubt if I'd ever get anywhere!

Yow moost be jowking

Brummie multi-billionaires US Gold's New Year resolution, which I for one welcome wholeheartedly, is a promise to release fewer games in '89 and concentrate on quality instead. If there's anything in this beyond a bit of PR talk I shall be very pleased (you thought I was going to say surprised, didn't you?).

The thing is, US Gold really can do it when it tries. In '88 it produced a quite decent arcade conversion with *720*, the entirely pleasant *Gauntlet II* and *Impossible Mission II* and the innovative and highly impressive *Heroes of the Lance* (well, it finally appeared in the last days of '88, truth be told). Any chance, by the way, you lovely US Gold people, of getting out *Pool of Radiance* on the CPC?

Advanced Dungeons&Dragons
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• At last! Heroes – and not before time, either

Of course, the other side of the coin (and, let's face it, coin is never far from these people's minds!) is that games which most reviewers – myself included – gave a right old slagging off actually sold by the lorryload. Even now retailers slaver with greed at the mere mention of *Out Run*. So what incentive does US Gold have to keep this resolution? You tell me...

One licence I look forward to and hope not to be bitterly disappointed by is the first fruits of the deal signed with Lucasfilm, which will be the new Indiana Jones film, due for release in mid-'89. I've always thought that Indie makes the ideal central character for a game. Fancy splashing out on *Crocodile Dundee*, anyone?

Christmas crackered

It's at this time of year your computer feels at its worst (as indeed you may do too). All those games you received as gifts have been played non stop for two weeks, the joystick is Christmas crackered and, chances are, so is your CPC.

Getting a repair done can be tricky, though. Amstrad doesn't accept duffers: instead it packs them off to a contract repair shop who shouldn't be allowed to put a plug on a kettle, let alone open up and fiddle with the sensitive bits of your precious computer.

One journalistic acquaintance was kept waiting months for a 664 repair. After five machines the High Street retailer parted with a 6128 just to get the whingeing hack out of the door (and believe me, you ain't heard nothing till you've heard a hack whinge). This is indeed the secret if your machine is still under guarantee – give the responsible party ten minutes ear-bashing a day, and they'll have a replacement sent to you, possibly before your grandchildren have died of old age.

There are three main things to watch out for: first, find a local company, because if you can lug the computer back and forth, you'll save yourself from the deadly "it's in the post" excuse. Next, make sure get their phone number. You can't pester them enough. Keep on and on. It's bad manners, but some people tread all over you if you give them half a chance.

Finally, get a quote beforehand. Some repairs are actually cheaper than they should be (I was once charged nothing for a new set of connectors on an interface), but not surprisingly many repairs are overpriced. Beware, for example, of any company which asks more than £40-50 for something which apparently requires no spares (cleaning, realigning etc) – though admittedly keyboards and disk drives cost if they're physically harmed. Ask why it costs so much.

Short shopkeepers rejoice

SD Microsystems is to release an integrated accounts-cum-business package for the CPC. The Stock Accounting System costs £39.95 on disk (for 128K machines only), and includes a stock control program, with an invoicing system and sales ledger built in, together with printing routines to make hard copies of documents.

Though I can't pretend I use such software day in and day out (my bank manager kindly keeps me fully up to date with the state of my overdraft for me), SD Microsystems' previous releases, such as* The Small Traders Pack *(sounds odd, somehow: a pack for short shopkeepers?) have struck me as friendly, useful items ideal for a one-person company.

I've been impressed too by the excellent support it offers its customers – and that's according to the latter, not the former!

So I think I'd recommend its new 'Small Traders Club', which offers help and advice as well as a small quarterly newsletter.

Membership is a modest £10 per annum, and if you do decide to give it a go I'd be glad to hear how you get on, and whether you think you're getting your money's worth. SD Microsystems can be called on 0462 675106.

The story so far

Now let's see if we've got this right. *Computing with the Amstrad CPC* swallows up *Amtix*; changes its name to *CPC Computing*; merges with *Amstrad Computer User*; which now gets flogged off for 17p plus two old boots to Focus.

Pity the poor subscribers, I say, who can't switch allegiance to *A*strad Act*on*. Not that I'm biased, of course...

Steve Carey (editor, *A*strad Act*on*)

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Long story

For all those writers who find their sentences are too long there is now the updated version of Scarabeus Software's program called *Texatrix 2* which can not only give a word count but will also give average sentence and word lengths to make sure you're not losing your readers and its telephone number is 01 515 4313 and the price of the program is £5.99 and you can even work out the reading age of the piece you're writing so that must be useful, mustn't it?

Empty phrases

There's an easy way to delete phrases from an existing set in *LocoScript 2*, so of course it's not mentioned in the manual.

When you've got the phrases showing ([f1] in the disc manager, 'show phrases') delete the ones not required by moving the cursor onto each and pressing [-]. Save the new set, empty if you like, under an appropriate name like EMPTY.PHR ('save' option in the same menu).

Rob Ainsley

Nijuu yon pin purintaa doraibaa

Genuine Japanese for '24-pin printer driver'. 24-pin printers were developed in Japan to cope with the detail required for kanji, those squiggly characters used by the Japanese. There are a bewildering number of them but they all look confusingly alike and are tremendously complicated – and the same goes for the kanji.

Locomotive is offering NEC 24-pin printers to go with its 24-pin printer drivers for LocoScript 2. This enables you to print out anything you like in glorious 24-pin quality. Yes, all those LocoFonted Cyrillic letters, mathematical symbols and Greek accents come out in a single pass in two dozen dot detail. £549 plus VAT gets you the connecting cable with printer driver software for an NEC P6 Plus.

As this is a bit expensive it'll throw in an NEC P6 Plus printer free. £349 buys another printer driver, for an NEC P2200. It will throw in a cable free again, and an NEC P2200 too.

The printer drivers are also available for £24.95 without the free printers. More details on 0306 740606.

QL corner

Enigmatic pricing

I was interested to read about the QL-compatible Enigma being produced by ABC Electronics in Hanover. ABC has been on the QL scene for a couple of years now – its Geiga mouse front-end and add-on AT style keyboards have received much acclaim. But the Enigma's price tag of £599 seems steep when you consider you're getting 1 Meg of RAM, a PC keyboard, mouse and single disc-drive.

Since you can now pick up a QL with a 768k Miracle Systems Trump Card and dual NEC disc drives for £325, I'd have thought ABC could have dropped another £100 and still covered its margins on the keyboard and mouse. We'll just have to wait and see how it sells.

Amiga overlap?

Over in the Amiga world they're awaiting the release of *HiSoft Basic* – and the new Amiga version is compatible with QL *Superbasic*.

You'll be able to port programs written on the QL over to an Amiga and then compile them to run as stand-alone routines. So Amiga owners into Basic programming would be able to develop software for the QL market and port it to the Amiga to recoup even more of their costs.

Future frills

Sector Software can now claim to be one of the main companies in the QL market. Its *Taskmaster* program transformed the QL's innate potential into a true multitasking environment that still knocks the socks off the guru meditations of the Amiga's operating system.

Sector has at least two programs planned for release this year. First off is an extension to the popular *Flashback* database – a report generator – but the biggie for all serious/ business QL users is an Ideas Processor based on the *Think Tank* and *Brain Storm* packages for the IBM.

This is like a freeform word processor where words can be flagged to refer to other notes in the text. As such you generate nested areas of data – levels and sub-levels if you like – so you can work up an idea from scratch to conclusion and print out the process to any degree of complexity.

Sector's David Batty even goes as far as to claim the package can be used to facilitate structured programming. He also told me '88 was the best year yet for his company and he expects interest and enthusiasm for our machine to continue on and beyond the emergence of Thor and Enigma. Here's to 89 fellow leapers!

Robert Myers

More transfers

In February, Sector Software plans to release a two-disc QL-Amiga-QL file transfer utility with leads and documentation for £25. This will be closely followed by a similar QL-ST program. Both these complement the QL-Z88 transfer utility already on offer.

As far as the Z88 is concerned, Dilwyn Jones, author of Sector's Page Designer DTP package, is writing software to automatically convert QL Superbasic into Z88 Basic and back again. As there's a dearth of Z88 Basic programs and a fair number of Z88/QL owners this would seem to be a little beauty.

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Ninja rave

This week it has been my good fortune to take an-in depth look at the latest production from Superior Software, *The Last Ninja*.

This game is a conversion from the original written for the C64 by System 3, but the BBC version appears to have been programmed entirely by Peter Scott.

Now I may be biased because I know Peter, but I happen to think that he is just about the best games programmer working on the BBC at present. With *The Last Ninja* he has really excelled himself, getting all the features of the Commodore version into the relatively small memory of the BBC.

How has he done it? Well, without revealing all of the man's tricks, you will see for a start that the game screen is based on a cut down Mode 5 screen.

The smooth scrolling is another trademark, and sprite animation a speciality. Reversed byte tables, and Sprite data stored in screen RAM are just two tricks involved, but there are many more.

The game scenario has you as the last Ninja on a mission to recover scrolls from the mystical lands of the Shogun. Along the way you must collect objects, fight battles, pray at temples, and – most importantly – use your wits to stay alive.

Magic will be required at some stage to overcome various hazards, but apart from this gameplay is fairly straightforward, and even novice players like myself found it satisfying to use. Games wizards will also gain plenty of enjoyment from the game.

An Electron version was also sent, so I gave it to a colleague for review. He reported that although slightly slower it was very playable, and had lost none of i's features.

The Last Ninja has to be an absolute cert for number one in the BBC/Electron games chart.

Ninja inside info

I spoke to Peter on the 'phone and he gave me the following tips:

- ***Use your Shurakans and smoke Bombs very carefully, because if you can keep one in reserve, when you go up a level they will be replenished.***
- ***In the higher levels a good plan is to run up to your opponent, strike a blow and then run away again. This avoids your power levels being depleted, which is very important.***

Peter is currently working on two exciting projects, of which more news next week!

Who's Sid?

At this time in the year real news tends to be rather thin on the ground, so in a search for tempting titbits of information I turned to *SID*, Acorn's on-line database. I was however disappointed with the news section. The aforementioned *Sid* section was much livelier, and included various quasi-independent magazines, such as *Games Galore*. I know that Acorn is keen to support *SID*, so I will keep you informed.

Andrew Brown

MSXTRA

Nintendo link

I have just received (unsolicited, might I add) the *Electrocoin* monthly newsletter. This new publication is aimed mainly at the Nintendo console user.

"What has this got to do with the MSX?" I hear you cry. Well, with the newsletter you receive a list of available software, and a few of the titles are for the good old MSX.

There are four titles, in fact; *Operation Wolf* and *Matchday 2* (both available now), *Robocop* and *Rambo 3* (both out in January). All four titles are from the Ocean/Imagine stable and are, I hope, an indication that the MSX will grow in strength in '89.

Maybe the fact that Luther de Gale, who now works with the UK division of Nintendo but used to head Konami UK, has something to do with Nintendo's interest in MSX software.

I hope it expands this area of its operations, and we see more of the excellent Japanese software available for the MSX.

Royal review

Thanks to a group of dedicated MSX users in Northern Ireland (and of course Santa Claus), I now have a copy of Konami's *Kings Valley 2* – and a gem of a game it is too. Since the aforementioned de Gale left Konami UK, review copies of games have been almost non-existent. This is unfortunate, as ROM cartridges are expensive and MSX users will be reluctant to spend £20 on an unknown quantity.

Let me say that *Kings Valley 2* is definitely worth £20. The more I play it the more I can appreciate the programming involved. The graphics take the MSX 1 to its limits. The sound from the LSI sound chip is out of this world, and the ability to create your own screens is a brilliant idea.

Well done Konami. Now how about a review copy of *Nemesis 3* when it's released?

Keith Neal

Exit Philips?

Although Philips has yet to make an official announcement, it seems that when it has cleared current stocks of MSX 2 computers it will no longer manufacture these machines.

Instead, it will concentrate on a range of PC-compatibles. I know that this sounds like bad news for 1989, but all is not doom and gloom. The MSX 2 computers are about three years old, and companies must move on to stay competitive. I know that Philips is working on a card that will make the PC emulate an MSX 2.

I don't think Philips could drop the MSX entirely, as it is used for educational purposes in Holland and Belgium. How well Philips will fare in the already overcrowded PC market is debatable; price will be a decisive factor and Philips PCs are fairly expensive. The price and performance of the emulator is also an unknown factor at present.

It looks like the MSX market in Europe will be left to the likes of Sony, Mitsubishi and Sanyo, with their shortly to be released MSX 2+ computers.

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PSsst!

By some peculiarity of the Christmas post, PSsst! has received the following unmarked letter from someone in Essex called Alan sent to someone in Cambridgeshire called Clive

Dear Clive,
Many thanks for your Christmas present. I was a bit baffled, old son, about its resemblance to a C5, but there again it's not often that you receive a revolutionary mushroom-gathering machine. I trust you'll have some use for the paperclips I sent you (invoice attached).

But to business. Frankly mate, this week has been a dreadful strain, what with all the sackings and so on. I now know how you must've felt when you had a company to run. It caused me the most untoward grief to have to wander round amongst all the tea-stirrers, window-starers, time-servers and techie-headcrunchers and only be able to lay off half a dozen of them. I've always thought that we could run the whole damn caboodle with ten people, but those idiots in the City tell me that that's not on. Nonsense, really, but there we have it.

Anyway, have I got a nice little earner for you - straight up. No sweat, it's nothing like the old Spectrum scam: I don't need anything else of yours sunshine. No, it's about your strange Z88 thing. I know you've never been one for the perception game, but your machine's monicker just doesn't cut it any more - if it ever did. Z88 sounds just a might bit boffiny and out of date. You should slap Cambridge all over it - give it a bit of style and class. Shove in a few shots of the college and the punters'll flock in droves, bless their little leatherette wallets.

What d'yer reckon? Just bung me the usual ten per cent when it takes off, that's all. You can't say fairer than that.

As for the other matter, well knock me down with a feather! Leave it out old son! What do you think I am - made of money? I couldn't give a monkey's for that sort of innovation. Try Atari, they seem to be into any and every oddball idea. Utterly bonkers, of course, but you know these Americans. It's worth a whirl.

Failing them, you could always try Commodore. All you'd have to do is persuade those characters that Atari will be doing one at some stage, and they'll fall over themselves to get in on the act. Dead easy! Like taking candy from a baby - or selling 'em Spectrums, which is much the same thing.

Talking of which, you'll've noticed that we've hit a bit of grief with the old Speccy. It fair made me chortle when the pundits began banging on about the Sinclair Effect and the curse of Sir Clive striking again! No offence, like. Still, what's sauce for the goose: you got away with it. Maybe I need to develop the cuddly Uncle Al image to make 'em all feel warm about me. For some reason, those still left at Brentwood Towers seem to think that's a bit droll. Can't think why. I've tried the Joe Punter average man in the street who doesn't understand computers lark. You know, the "Cor blimey guv, what's all this then?" - shove it all together, bung a plug on it and away you go posture. Then there was the little guy swearing at the big corporations, having a bit of fun, kicking up a stink, you too can be a modern businessman - all that sort of stuff.

So why not another change? New year, new pose - it's all a game, isn't it chum? You had a lot of fun posing as a boffin. But you still sold your five million units, didn't you matey? Very subtle, that one.

Any tips on how to become the father of the industry, Sinkers, will be much appreciated. Good on you, squire.

Likewise if your outfit want to know more about being hard businessmen screwing everything to the floor, negotiating ludicrous rates with our Oriental friends, then just ask me. It won't cost you an arm and a leg. Just a leg! (That's my little joke. Usual rates will apply.)

I'll have to take my leave of you, mate. I've got to leg it over to Wimbledon. It seems they want some one to sponsor them who are "more commensurate" with their image, whatever that means. Still, if it stacks up, then we'll do it. We nearly tied the knot with that lot at Tottenham a couple of years back. Had everything worked out. Malcolm came up with a terrific slogan: "Hoddle, Waddle - with Amstrad it's a doddle", but then the bunch of woofters signed up with some lager mob that no one's ever heard of. Look at 'em now, that's what I say!

I'll catch you at the Vicarage next week, then you can come over to our gaff in Feb.

Yours, etc
Alan

PS Do keep schtum about these letters. We don't want the reptiles of the press latching onto our little chats.

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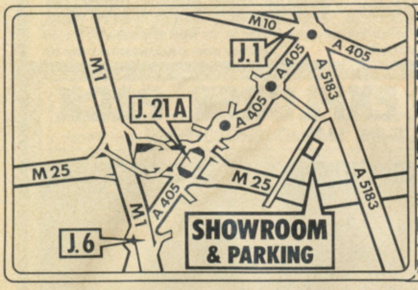
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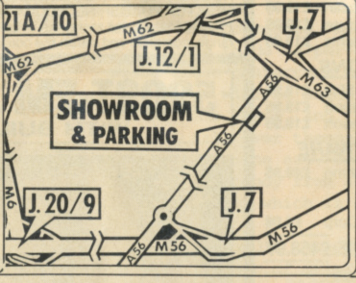
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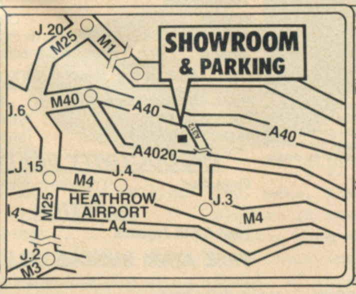
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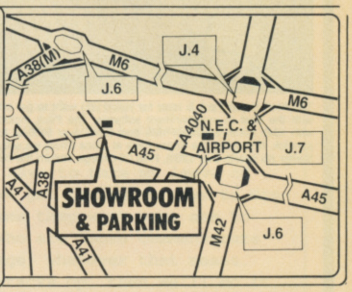
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